G. R. S. App. F. IX-4]

1940 -41

File No. 9·P.50/404

Previous References.

(D. P.)

Serial Nos.

Later References.

GENERAL AND REVENUE SECRETARIAT

Serial Nos.

D·202
E

Part B for

SUBJECT.

Manufacture of Abrasives & Abrasive Products in Mysore — by M. P. S Narayana. Grant of advance as recommended by the Board of D. P.

(1)

GOVERNMENT OF MYSORE.

INDUSTRIAL RESEARCH BOARD.

Subject: Sub-Committee for Abrasives - Meeting - Proceedings.

U.O.File No.49/40-41 Dated,24th November 1940

Submitted.

1) Copy of the proceedings of the meeting of the Sub-Committee for Abrasives, held on 20th Novr.40 received from the Director of Geology in Mysore (Convenor) is herewith put up for favour of perusal and orders.

2) Copy of letter No.9774-15 dated 22nd Novr.40 of the Director of Geology in Mysore to the Secretary to Government,Development Department, recommending the grant of Rs.2,000/- to Mr.P.S. Narayana, a consulting Geologist, in Malleswaram, Bangalore to enable him to continue and complete his investigations on the manufacture of Abrasive products from some of the Mysore minerals, as also copy of the application of Mr.Narayana are also put up for perusal.

3) The Director of Geology was intimated in reply to his letter of the 9th instant, that if the Geological department is interested in this manufacture, the cost of investigations will have to met out of the budget grants of the department, if the investigations are approved by this Board. In his letter to Government, he has requested sanction of the grant from out of the funds at the disposal of this Board. No mention has been made whether the cost involved could or could not be met out of his departmental grants.

4) Since the Sub-Committee have resolved in favour of the scheme, ~~perhaps~~ the proceedings of the Sub-Committee recommending the sanction for the grant of Rs.2,000/- ~~might be~~ kept before the Board, for consideration, at its next meeting

CHAIRMAN)

Secretary.

Please be in the 1st December

await proceedings

26/4

MYSORE ECONOMIC CONFERENCE.

BOARD OF INDUSTRIES AND COMMERCE.

Subject Manufacture of Abrasives

File No. of 19

6) Brief note together with Copies of Test Report (on the Samples abrasives prepared) received from Dr. Narayana which has already been perused by the Chairman & herewith put up.

7) This subject was discussed in the Board of the meeting held on 25th. Nov. It was decided that the Scheme might be recommended to Govt for Sanction.

8) As ordered, the Proceedings of the Board meeting was called for. The Secretary has intimated that the Proceedings would be forwarded when ready. The file is therefore put up.

9) It may be noted here that the Scheme has been recommended to Govt under certain conditions, by the Dr of Geology. He has proposed in his letter that the expenditure might be met out

NOTE—Contn. Sheet.

WD 921—GPB—1,500—26-9-28

(3)

out of the funds at the disposal of the Board. As already noted, he has not intimated as to why the expenditure proposed (the experiments in which the dept. is interested) should not be debited to his departmental grants. If approved, the file will be submitted to Chairman for orders if the Scheme may be recommended to Govt, by debiting the expr. to the General Reserve of Ind. Concerns

In order

Jh
18.7.40

Secretary)

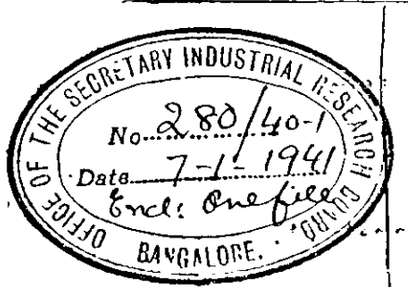
10) The matter was discussed by me with the Chairman. The subject was also brought up for discussion on 25. Nov. 40 at the meeting of Bd of I.C, which approved of the Scheme. As per instructions of the Chairman, the Dir Secy was requested by me to speed up the recommendation of Bd of Geology. There is nothing more to be done in this matter by the Bd until we hear from Govt. KS 18/12

INDUSTRIAL RESEARCH BOARD.

BOARD OF INDUSTRIES AND COMMERCE.

Subject Manufacture of Abrasives and Graphites etc., in the State.

File No. of 19 .



Dated, 7th January 1941.

Submitted.

B 11) Letter No.D.3039/I&C.230-40-12 dated 6th January 1941 from the Secretary to Government, Development Department, requesting that the scheme on the above subject, prepared by Mr.P.S. Narayana, Consulting Engineer and Geologist, forwarded therewith, might be placed before the appropriate Sub-Committee and to forward its views to Government within a fortnight, is put up for kind perusal.

12) It may be mentioned here that very recently on the recommendations of the Abrasives special Sub-committee and approved by the Board, Government have been pleased to sanction a grant of Rs.2,000/- to Mr.P.S. Narayana, to enable him to continue his investigations on Abrasives. A (vide G.O. No.D.2908-11/I&C.230-40-8 dated 23rd December 1940 put up). The final results of these investigations are awaited.

13) The Scheme of Mr.Narayana, now forwarded by Government, will be placed before the Abrasives Special Sub-Committee consisting of the following personnel for consideration.

1) Dr.J.C. Ghosh (Member)
2) Mr.P.S. Narayana (Member)
3) Mr.B. Rama Rao (Member and Convenor)

14) The Director of Geology will be requested to convene a meeting immediately and to intimate the

INDUSTRIAL RESEARCH BOARD.

BOARD OF INDUSTRIES AND COMMERCE.

Subject.... Manufacture of Abrasives and Graphites etc., in the State.

File No. of 19 .

the views of the Sub-Committee.

Secretary.

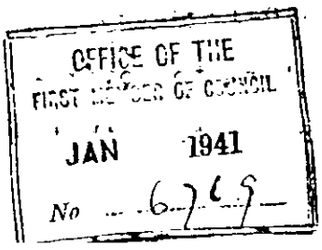
Chairman)

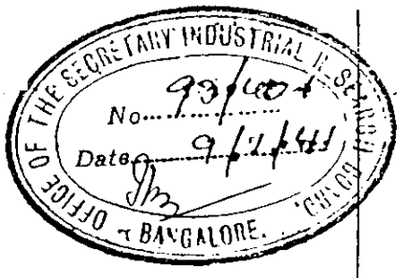
15)

8/1/41

16)

3/1/41





17) D/f Letter to Dr. of Geology put up for appn

9/1/41.

18) appd 9/1/41

19) Issued 10/1/41

Secy)

20) Government Director, Ind. Concerns is added on as a Member of the "Abrasive" Sub-Committee vide Go No. D 3041/94 230-40 dated 6.1.41

21) Dr. of Geology & Govt Dr. Lave been intimated of above as per wishes.

28/1/41

22)

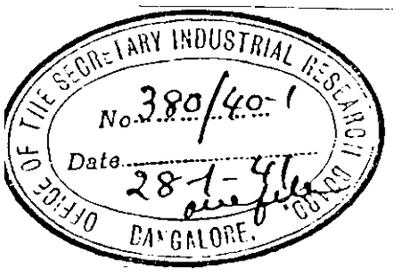
23/1.

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject Manufacture of Abrasives in the State.

File No. of 19 .



23) The Director of Geology has replied (vide his letter No.9774-43 dated 23rd January 1941 put up) that Mr.P.S. Narayana has not yet completed his investigations on the subject, for which a grant of Rs.2,000/- has recently been sanctioned by Government. The Director of Geology is of the opinion that till Mr. P.S. Narayana completes his investigations and submits his final report, no purpose would be served by convening a meeting of the "Abrasives" Sub-Committee, since the committee will not be in a position to arrive at any decision and submit specific recommendations for consideration of Government.

'B'

24) He therefore proposes to postpone the meeting for the present. He further states that he would, however, convene a meeting as soon as he gets the final report of Mr.Narayana. This may kindly approved, in the circumstances explained.

25) Letter No.D.3474/I&C.230-40 dated 25th January 1941 from Govt (received today) requesting to forward the views of the Sub-Committee immediately

'A'

WD 01345—GPB—750 - 7-1-41

NOTE.

Subject Manufacture of Abrasives in the State.

File No. of 19

immediately is also put up for kind perusal.

26) In the above circumstances, an interim report (in reply to the letter of Government) will be forwarded to Government, as above.

28/1/1941. Secretary.

28.1.41

JAN 28 1941
No. 7583

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. F. No. 176 Date 30-1-41

Chairman)

27) 29/1/41

28) Reply to Govt to be sent immediately.

30/1

29) Subm^s with draft reply to Govt for appl.

30/1/41. 30) Approved by Secy on Secy) 31-1-41

31) Letter to Govt issued on 31-1-41.

P.t.o.

NOTE.

Subject Manufacture of Abrasives in the State.

File No. of 19

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE. No. 630/40-1 Date 6/5/41

Dated, 6th May 1941.

Submitted.

9. 32) The report received from the Director of Geology re: the progress made by Mr.P.S. Narayana in the manufacture of abrasives from Mysore minerals as also the brief note of Mr.Narayana forwarded by the Director of Geology on the 29th April 1941 (Received here on 2-5-41) are herewith put up for kind perusal.

J

33) It is seen from the report that the results of experiments seem very encouraging. Mr.Narayana has so far prepared sheets of abrasive papers of different grades of fineness in standard sizes, using staurolite, tourmaline, grey corundum, pink courundum and powdered glass. It is also reported that all the papers seem to compare favourably with the imported ones, with the exception of tourmaline papers.

34) Mr.Narayana has also prepared five courundum wheels of 3 to 5 inches diameter from out of grey corundum supplied by the Mysore Geological Department. These have not yet been tested.

35) At the request of Mr.Narayana, I also visited his laboratory at Malleswaram on the 28th April 1941. He showed me the several samples of abrasive papers and corundum wheels prepared by him. He informed me that he had perfected the work on abrasive sheets and that there was nothing more to be done and also mentioned that the corundum wheels prepared by

WD 01345—GPB—750 -7-1-41

p.t.o.

NOTE.

Subject Manufacture of Abrasives in the State.

File No. of 19

by him - which have not yet been tested - would perfectly stand the test. He also informed me that he could conveniently manufacture about 8-10 gross of papers a day hereafter and that there was ready demand for these abrasive papers. Since the investigations were complete he was of opinion that the results could now be exploited for which he intended approaching Government to sanction a grant of Rs.20,000/- to take up the regular manufacture of abrasive papers. I told him that before this industry could be started with an investment of Rs.20,000/- as suggested by him, it was necessary and desirable to prove that this industry would be a profitable undertaking. I therefore suggested to him that he might submit a short note on the manufacture of these papers on a semi-commercial scale with an initial output of 8-10 gross a day working out in detail the cost involved, probable returns of output and the working capital needed for a period of 3 months, so that these estimates might be examined by the Sub-Committee. He agreed to send this note very early. The matter will be pursued further. Sample abrasive papers are also put up for inspection.

K

Secretary.

CHAIRMAN)

36) 9/5/41

OFFICE OF THE FIRST MEMBER OF COUNCIL
MAY 7 1941
No. 1143

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE.
Date
NVD 1134

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE.
325/40
Date 10/5/41

37) 10/5/41

NOTE—Contn. Sheet. GPE—N650—7-1-41

NOTE.

Subject .....

File No. of 19

38) Draft & fair letter to Mr. P.S. Narayana, Secretary Inst of Textile Short note on abstract papers, previous thesis, is herewith put up for kind signature.

28/5

39) 28/5 Secy.)

40) Issued 28/5/41

P.T.O.

NOTE.

Subject Sillimanite & Garnet - Minerals.

File No. of 19 .

'H'

41) Letter No. 9731-2 dated 20.6.41 from the Controller of Supplies, Madras re: Sillimanite & Garnet Sample minerals forwarded for inspection

42) The Controller of Supplies desires to know how far these minerals could be used in the manufacture of abrasive papers.

43) Sample packet forwarded by the Controller of Supplies was received just yesterday.

44) The Sample minerals may be forwarded to the Dr. of Geology & Convenor of the Abrasives Sub Committee for inspection and remarks.

45) D.O. letter to the Controller of Supplies, acknowledging the receipt of the Samples is also put up.

for orders 46)

Jh 27.6.41. Secy.)

47) D.O. letter to Dr. of Geology put up for Signature

Jh 30/6/41.

WD 01345—GPH—750 -7-1-41

NOTE.

Subject Manufacture of Abrasives

File No. of 19

-12-

'J' 48) Letter No. 9774-80 dated 2/7/41 from the Dir of Geology—

49) The Director of Geology states that the Samples of powdered garnet forwarded to him seems to be quite suitable for the manufacture of abrasive papers. With regard Sillimanite Sample sent he intimates that it cannot be readily identified whether it is really Sillimanite or Kyanite. He is of the opinion that in either case it is hardly as good as Garnet. Both the Samples have been forwarded by him to Mr. P. S. Narayana Consulting Geologist who has been Conducting investigations on abrasive products, for his trial & opinion.

'H' 50) Perhaps a reply may be sent to the Controller of Supplies, Madras, after further report is received from the Director Subt for perusal & orders—

NOTE—Contn. Sheet

WD 01345—GPB—750 -7-1-41

7/7/41. Secretary I/C

NOTE.

Subject ..... Manufacture of abrasives

File No. ..... of 19 .

OFFICE OF THE SECRETARY INDUSTRIAL R. SEARCH BOARD. No. 9/41-2 Date 7/7/41 Complete file BANGALORE.

'J' 51) The opinion of the Dr of Geology will be intimated to the Controller of Supplies Southern Circle - as an interim reply

Vice-chairman) 52) The Secy may kindly discuss this matter Dr Geology personally.

OFFICE OF THE CHAIRMAN 28-8-1941 M. I. & S. W. ETC., BANGALORE.

Re. O.M.P. 94/41-2 29/8/41

Chairman) 53) Early please

OFFICE OF THE MINISTER FOR LAW AUG 29 1941 No. 955

54) No-objn.

30/8

'J' 55) As already noted in ~~para~~ Para 49, the Dir. of Geology has furnished an interim report. The opinion of Mr. Narayana has not yet been communicated by him to this office, as stated in his letter. This is awaited.

As per orders in para 52 & 53, the Subject will have to be discussed with the Dir of Geology & a note submitted to the Chairman. Perhaps the Secy. may kindly bring up the Dir. of Geology in the matter & fix up an engagement.

56) It is for orders, in the meanwhile the opinion of the Dir. of Geology be intimated to Controller of Supplies as per minute in para (51).

Subject for orders

30/8/41. Secy.)

57) I shall intervient the Dr of Geology after the 5th

1/9

NOTE.

Subject Manufacture of Arsenic.

File No. 14 of 19

OFFICE OF THE SECRETARY INDUSTRIAL R. SEARCH BOARD
No. 186/41-2
Date 10.9.41
One file
BANGALORE.

58) As resolved at the Bd meeting on 5th a Sub Committee was constituted with Mr. M. Venkatanarasaiah as chairman. The Sub Committee visited the laboratory of Mr. P. S. Narayana today & the report received from the chairman of the Sub Committee is placed below for perusal. Subs.

Sd/- 10/9 Secy.)

59) I accompanied the members of the committee as per Vice-chairman's orders.

Chairman)

OFFICE OF THE MINISTER FOR LAW
SEP 11 1941
No. 2447.

60) Copy may be sent to Mr. Narayana

Sd/- 10/9

Sd/- 11/9

Sd/- 13/9.

OFFICE OF THE SECRETARY INDUSTRIAL R. SEARCH BOARD
No. 107/41-2
Date Sd/- 13/9/41
BANGALORE.

61) Draft letter to Mr. Narayana enclosing a copy of the report, is herewith put up.

Sd/- 14.9.41.

By Sd/- 15.9.41

By Sd/- 15/9

62) Observation of the chairman at the meeting to expedite purchase delivery & erection of plant & C.D. w(to Mr. P. S. Narayana) Communicated to Dr & Mr

63) Letter issued 16/9/41

IND 0185—SEP 41—750

NOTE.

Subject Abrasives - Manufacture of

File No. -15- of 19

66) Reminder to Dr & Geo - re: finish of the Narayana artee G.S Series of Garnet & Silliminite - issued on 27/10/41

67) Letter dated 26.10.41 from Mr. P. S. Narayana, intimating that the investigations are in Progress & that he had manufactured 11 reams of abrasive papers during the month & that he was able to sell them readily & that he had fitted the gumming machine into operation with success.

68) As requested, Copy of the above letter, is forwarded to Dr SO.7 & Dr of Geo. for necessary action, & queries for Progress report.

Jh 29/10/41

69) All future Communications to Dr SO.7 may be addressed to him as Dr of Dte.

Jh 30.10.41

70) Letter to Dr of Dte & Govt Dr issued on 4-11-41.

71) Progress discussed at the subsequent meetings of the Board

Jh 20/4/42

WD 01315—GPB—750 -7-1-41

I. R. B. 8j INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject .....

File No. of 19 .

77) Letter No. 9774-97 dated 6.11.41 from Dr J Geo. Jones & Co's Report J Mr. Narayana Re the Samples J garnet & Silliminite sent J the Controller J Supplies

78) Dr J Geo has already stated that Samples J Garnet seems to be quite suitable. He has now forwarded the Report J Mr. Narayana on the Subject.

79) If appd the Controller J Supplies will be intimated as above →

75) For orders

Jh 22/11/41.

76) 22/11

77) Dft J putch Letter issued 13/1/42

Jh

WD 01345—GPB—750 - 7-1-41

BOARD OF INDUSTRIAL PLANNING AND COORDINATION. Manufacture of abrasives.

General and Revenue Secretariat | File No. | of 194 | [App. F. III-2

Serial No.

78) Letter dated 21/4/42 from Mr P.S. Narayana enclosing a copy of Alipore Test House Certificate re: the Sample abrasive papers prepared by him, is for perusal.

79) Mr. Narayana states that he has a ready stock of 100 reams of abrasive papers as on 21.4.42. He requests that the stocks may be ordered to be taken over by the Dir of Ind for the use of the Industrial Schools @ Rs 25/= f.o.r destination. He further requests that the amount of Rs 2500/- sanctioned by Govt (Vide G.O No. D 3317-9 dated 5/1/42) may be kept at his disposal.

'G' 80) The amount of Rs 2500/- if kept at the disposal of the Dir of Ind for being advanced to Mr Narayana as when required vide G.O of 5th January 42. Mr Narayana will have to therefore approach the Dir of Ind for the amount required by him.

81) With regard to the disposal of the 100 reams of abrasive papers the Dir of Ind will have to be

NOTE—Cont. Sheet.

WD C4155—GPB—55,000—23-10-41

Manufacture of Abrasive Papers

File No. of 194 .

BOARD OF INDUSTRIAL PLANNING AND COORD'N

General and Revenue Secretariat

Serial No.

APR 21 1942
10764

SECRETARY BOARD OF INDUSTRIAL PLANNING & COORDINATION
APR 21 1942
No 1441/41-2

Consulted in the matter of the stocks may perhaps be taken over for the use of the Industrial Schools.
The Subject is on the agenda of the meeting of the 24th inst and the above points may perhaps be discussed at the meeting.
82) In the meanwhile if approved a copy of the letter will be forwarded to the Dir of Ind for favour of remarks, to facilitate discussion at the meeting
83) Submit for order

Jk 21/4/42

To 21.4.

Chairman & Law. Min Thro' Dev Secy

84) WD 21/4/42

85) 21/4

To 21.4

86) To the Director of Ind.
Forwarded Copy of letter of the Navayuga for immediate remarks.

Jk 21/4/42

87) To 22.4.

88) Issued 22/4.

BOARD OF INDUSTRIAL PLANNING AND COORDINATION.

Manufacture of abrasives

General and Revenue Secretariat | File No. | of 194 . | [App. F. III-2

Serial No.

Letter No. Nil dated 28.7.42 from Mr. P. S. Narayana, Consulting Govt. Geologist forwards a report of work done during 41-2.

Requests that as a special case, a sum of Rs 30,000/- with a small interest of 3½% might be sanctioned on a cash credit basis, to develop the industry.

89) The report of work done during 41-2 submitted by Mr. Narayana is for perusal. If approved, a brief abstract of this will be incorporated in the Annual Report of the Board, under preparation.

90) Yes. 10/9

91) The request of Mr. Narayana for an advance of Rs 30,000/- with a small interest of 3½% is for orders.

The original advance of Rs 25,000/- having been paid back by Mr Narayana the Dir of Ind reported that he has since submitted proposals to Govt to retain the first advance of Rs 25,00/- & to augment it by a similar amt, thus bringing the total to Rs 50,000/-. It is ascertained

NOTE—Cont. Sheet.

WD 04155—GPB—55,000—23-10-41

471

Manufacture of abrasives

BOARD OF INDUSTRIAL PLANNING AND COORDINATION

File No. of 194 . | General and Revenue Secretariat

Serial No.

that Govt is under consn (sanctioning an advance of Rs 5000/- as proposed by the Director of Ste. This subject is on the agenda of the evening meeting. The present request of Mr. Narayana may perhaps be discussed at the meeting.

92) This has been issued for

93) Forwarded.

94) Copy of Govt Note read is also placed in the file

Sh 6/8/42

For 6/8/42

Sh 6/8/42 Dep. Secy 95) For perusal.

Min. Law) UO

96) In the meantime if any other Chemicals needed may also be purchased by Dir Ste stocked retained.

OFFICE OF THE MINISTER FOR LAW AUG 7 1942 No.

For 7.8.

UO 7/8/42

For 7.8.

97) Draft letter to the Dir of Ste put up for sgd. Perhaps a copy of this may also be sent to Dep. Ste Branch Perhaps the Dir of Ste will have to purchase the chemicals etc for being stocked & issued to Mr Narayana from the advance of Rs 5000/= recently sanctioned by Govt. Whether this point has to be made clear in the letter to the Dir is a point for orders.

SECY OF STATE FOR MYSORE 7 AUG 1942

Sh 8.8.42 The sum of Rs 5000/- now

BOARD OF INDUSTRIAL PLANNING AND COORDINATION.

General and Revenue Secretariat

Grant of a cash credit of Rs 30,000/- for developing the industry subject to certain terms

FILE No. of 194 [App. F. III-2

Serial No.	
	Sanction is required by Mr Narayana rallu urgently, as stated by him. The purchase of the chemicals as ordered at para 96 above may be made by the Dir IxC out of sanctioned grants of the dept. The draft will be revised accordingly, if approved. Dev Secy) 11.8.42
	(What are the chemicals referred to?) Please see me. WD
	(Subject. Revised draft sent. Considered at the Meeting on 15.9.42) (This is included in the agenda for the Bd meeting today). WD 15/9/42
	The draft letter put up on 8.8.42 vide para 97 has not yet been issued. Submit for instructions. Issue at once, and Send Mr Narayanan's appln for a loan of Rs 30,000/- to the Dir IxC, for his opinion. WD 21/9/42 WD 22/9/42 22/9/42

NOTE—Cont. Sheet.

Letter to Dir I & C issued. No. D.F. 148/42-8 Dated 22-9-42

W.D. 04155—G.P.P.—55,000—23-10-41.

Application of Mr P.S. Narayana
for a Cash Credit of Rs 30000/-
for developing the Abrasive industry

BOARD OF INDUSTRIAL PLANNING AND COORDINATION

File No. of 194 General and Revenue Secretariat

Serial No.

D.O. letter to Dir of Ste forwarding the application of Mr. Narayana as per wish Below.

Appd & signed on 22/9/42

Jms/22/9

Jms No. Dy. 149/42. 3
Dated 22.9.42
To the Dir of Ste

Letter No. Dy. 329/41.2, 25.9.42 from the Dy. Dir of Ste in charge

Reports that Mr. Narayana has refunded the working advance of Rs 5000/- in full & that the amount was credited to S.H. Try on 21.9.42

He further states that proposals re: the Cash credit of Rs 30,000/- would be submitted to Govt after the return of the Director from Delhi.

The letter of the Dy Dir of Ste in-charge is for perusal. Further report from the Dy Dir may be awaited. In the meanwhile a copy of the letter may be sent to the Br. Ste Industry.

JMS/22/9

The working advance of Rs 5000/- by Mr. Narayana has been fully refunded & credited

BOARD OF INDUSTRIAL PLANNING AND COORDINATION.

Application of Mr P. S. Narayana for a Govt credit of Rs 30000/- for developing the industry

General and Revenue Secretariat | File No. | of 194 | [App. F. III—2

Serial No.

To Treasury on 21. 9. 42

JK 28/9/42

To 29-9-42

Draft copy of letter for Mr Dir. Petrol for Signature for being sent to Dte Br

JK 30/9

Jones

(This copy has been taken by me & placed in the connected Dte file).

To 30/9/42

'A' 28.7.42 from Mr Narayana to Dte Branch for taking further action.

To 30/9/42

'A' This has already been sent to the Dte Br on 22.9.42 Subst in person

JK 30/9.

Decision of Govt Bd also Communicated on 8.X.42. vide D.V. 214/423 & 215/42-3.

Go No. D. 4168-70/Dk 55-42-5, Dated 23 12/42 sanctioning an a further advance of Rs. 15000/- on certain conditions

NOTE—Contn. Sheet.

WD 04155—GPB—55,000—23-10-41

Since the Dir of Govt's also Connected with a copy of the Govt's also sent to him vide orders on the original letter

JK

File No. of 194 . General and Revenue Secretariat.

Serial No.

(The Papers relating to the grant of R 2000 advance over Rs 1 lakh a year to the Bd

Papers recorded as per note of Secy

(xvi) Manufacture of Potassium Permanganate.

The Director of Geology said that he had sent up proposals to Government for undertaking experimental work. It is proposed to prepare this by making use of ore available locally by electrolytic process.

The Committee decided that a scholar of the Indian Institute of Science may also be associated with the above work proposed to be carried out by the Director of Geology.

(xvii) Manufacture of Corundum Wheels, Sand Paper, etc., Abrasive Materials.

Dr. J. C. Ghosh said that some experiments had been conducted in the Institute in this respect.

The Director of Geology had also done some experiments and one Mr. P. Satyanarayana, Consulting Industrial Geologist, Malleswaram, Bangalore, has also done some work on it.

The Director of Geology was requested to get into touch with Dr. J. C. Ghosh and also to associate Mr. Satyanarayana with the work.

(xviii) Production of Cinchona.

Research work on cinchona taken up by Dr. M. N. Ramaswamy of the Forest Department may be continued and he be requested to send periodically progress reports to the Board.

(xix) Manufacture of Water-proof Fabrics.

This had been considered by the Board of Industries and Commerce. The note promised by the Director of Sandalwood Oil Factory may be obtained and the question pursued.

(xx) Mixture of Petrol and Power Alcohol.

Different percentages of petrol and ethyl alcohol which would give the best results as engine fuel should be tried in the Engineering College. If facilities are available motor car running tests may also be conducted. This must be done in a continuous manner.

The work may be carried out by the Principal, Engineering College, and a Chemist from the Mysore Sugar Company to be associated with him.

(xxi) Testing of Textile Samples.

There were ample facilities for the testing of cotton samples in the Indian Central Cotton Committee's Laboratories at Matunga.

In regard to testing of wool samples, etc., the Live-Stock Expert of the Department of Agriculture may be associated with the Principal of the Sri Krishnarajendra Silver Jubilee Technological Institute.

(xxii) Sulphur.

The Committee considered that as this was an important material required by most of the industries, its preparation from ores available locally should be investigated.

The Director of Geology said that he had been conducting experiments but as good ore had not yet been discovered, it had not been possible to arrive at any workable data.

The Committee considered it desirable to continue the investigation though this was of a long-range character and the Director of Geology agreed to do so.

(xxiii) Manufacture of Copper Sulphate.

There was a good demand for copper sulphate both by the Agricultural Department and the Forest Department. Mr. M. A. Srinivasan mentioned that the Mysore Chemical Manufactures, Limited would be manufacturing this article shortly.

(x) Manufacture of Soaps required by the Textile Mills.

The Government Director of Industrial Concerns explained that he had obtained samples of Marseilles soap from the Mysore Spun Silk Mills, Ltd., Channapatna, and had arranged to supply similar soaps to them, and he was also arranging to supply them to Sri Krishnarajendra Mills, Ltd., Mysore, and the Bangalore Woollen, Silk and Cotton Mills, Ltd.

(xi) Manufacture of Plastics.

Experiments in regard to manufacture of plastics were being carried on in the Indian Institute of Science by Mr. Srinivasaiya, by the Mysore Iron and Steel Works and by the Government Electric Factory.

The Chairman, Mysore Iron and Steel Works, said that they have ordered for machinery to try the manufacture of plastics on a semi-commercial scale. The following Sub-Committee was entrusted with the further investigation of the problem:—

1. Mr. V. Paul, Indian Institute of Science.
2. Mr. Ahmedali, Chemist, do
3. Mr. M. Srinivasaiya, B.A., F.I.I.Sc., of the Indian Institute of Science.
4. Mr. V. Rama Rao, B.Sc., of the Government Electric Factory.

(xii) Manufacture of Copper Wire, Galvanised Pins, etc.

The drawing of copper wire has been undertaken by the Government Electric Factory. The question of manufacturing galvanised steel pins and shackle for insulators may be investigated by the Government Director of Industrial Concerns with the co-operation of the Industrial Engineer and a representative of the Mysore Iron and Steel Works.

(xiii) Manufacture of Tube Glass.

The Director of Industries and Commerce said that the Mysore Glass and Enamel Works proposed to undertake the experimental manufacture of tube glass.

The Committee decided that the Director, Indian Institute of Science, may persuade one of the students in the Institute also to undertake this work.

(xiv) Manufacture of Chemicals, Drugs and Essential Oils.

The following Sub-Committee was constituted to go into the question:—

1. *Sastravaidyapravina*
   Dr. S. Subba Rao, B.A., M.B.C.M., L.R.C.P. (Lond.), M.R.C.S. (Eng.), D.P H., Retired Senior Surgeon (*Convenor*).
2. Dr. B. T. Narayan, B.A., Ph.D., D.Sc.,
   Bio-Chemist, Department of Agriculture.
3. Mr. B. H. Krishna, M.Sc., A.I.C., A.I.I.Sc.,
   Industrial and Testing Laboratory.
4. Dr. B. L. Manjunath, B.A., M.Sc., D. PHIL.,
   Professor of Organic Chemistry, Central College.
5. Dr. P. C. Guha, D.Sc.. (Cal.) of the Indian Institute of Science.
6. Dr. L. S. Doraswami, M.Sc., (Lond.) Ph.D., (Lond.),
   Superintendent of Government Gardens.
7. Mr. M. S. Krishna Rao,
   Superintendent, Government Soap Factory.
8. Dr. M. N. Ramaswami, M.Sc., D.Sc.,
   Forest Chemist, Forest Research Laboratory.
9. Mr. B. Sanjeeva Rao, B.A , M.Sc., (Mad.), F.I.I.Sc., of the Indian Institute of Science.

(xv) Manufacture of Cement Asbestos.

The Director of Geology said that some experiments had been conducted and as cement and asbestos were both available in Mysore, it was worthwhile taking up the investigation of this question.

The following Sub-Committee was constituted to examine this subject:—

1. Director of Geology in Mysore (*Convenor*).
2. Mr. S. G. Sastry, B.A., M.Sc., F.C.S.,
   Director, Sandalwood Oil Factory.
3. Mr. M. K. Narasimhan, B.A.,
   Cement Factory, Bhadravati.

A suggestion was made that the brick plant in the Mysore Iron and Steel Works may be made use of for making these bricks.

The Chairman of the Mysore Iron and Steel Works was requested to send a Note on the subject for the consideration of the Board.

(v) Grinding Bodies for the Cement Plant.

These are also used in the Porcelain Factory. They are now being imported.

The Chairman, Mysore Iron and Steel Works, was requested to send a Note with samples to the Director of Geology for investigation and report.

(vi) Manufacture of Caustic Soda.

This is required by the Mysore Paper Mills, and by several other industries, such as Soap Factories, etc.

It was pointed out that the marketing of chlorine obtained as bye-product in the manufacture of caustic soda presented a problem. Further, the Okha Works and the Mettur Chemicals who are likely to start work in the near future might be able to supply the demand for caustic soda in Mysore. The question as to the quantity required by industrial concerns in Mysore, the outlets for the disposal of chlorine obtained as bye-product and the chances and scope for the industry, may all be investigated by the following Sub-Committee:—

1. Mr. M. A. Srinivasan, B.A.,
   Government Director of Industrial Concerns (*Convenor.*)
2. Mr. S. G. Sastry, B.A., M.Sc., F.C.S.,
   Director, Sandalwood Oil Factory.
3. Dr. B. K. Ramprasad, M.A. (Hon.), D.Sc., M.I.E. (Ind.)
   Government Electrical Department.
4. Dr. K. R. Krishnaswamy, B.A., D.Sc. (Colomb.), F.I.C.,
   Indian Institute of Science.

(vii) Manufacture of Glauber Salt.

This is obtained as a bye-product in the manufacture of Sodium Bi-chromate. A scheme for the manufacture of the latter was under consideration by a Sub-Committee of the Board of Industries and Commerce. It was therefore decided that this question might be pursued by that Sub-Committee, and that the question of manufacturing Glauber Salt locally in view of there being a large demand for it may be investigated by (1) Dr. Krishnaswamy and (2) Dr. B. K. Ramprasad.

(viii) Manufacture of Alum.

Alum is required by the Paper Mills Co., by the Water Supply Department, etc. A large quantity of it is at present being imported.

The Director of Geology said that he had been conducting experiments with raw materials available in Mysore. Kemmangundi deposits are found useful. The further investigation of the question was entrusted to the following Sub-Committee:—

1. Mr. B. Rama Rao, M.A., D.I.C.,
   Director of Geology (*Convenor*).
2. The Director of Public Health.
3. Mr. S. G. Sastry, B.A., M.Sc., F.C.S.
   Director, Sandalwood Oil Factory, Mysore.
4. Dr. B. K. Ramprasad, M.A. (Hon.), D.Sc., M.I.E., (Ind.)
5. Mr. N. K. Seshadry Iyengar, B.A., M.Sc.,
   The Mysore Paper Mills, Ltd., Bhadravati.

(ix) Manufacture of Carbon Electrodes.

The Chairman, Mysore Iron and Steel Works, said that some experiments were being conducted in the Works with magnesite, making use of a Press obtained from the Government Electric Factory. The results were not encouraging. The passage of electricity was not good, which reacted on output.

Dr. Ghosh observed that Graphite Electrodes were very costly.

It was recognised that this was a serious problem and should be tackled immediately by the following Sub-Committee:—

1. Dr. B. K. Ramprasad, M.A. (Hon.), D.Sc., M.I.E., (Ind.), (*Convenor.*)
2. Mr. D. V. Krishna Rao, B.A., of the Mysore Iron and Steel Works,
3. One Chemist from the Mysore Paper Mills, and
4. One from the Indian Institute of Science.

that the Board may meet once a quarter to review the work of the Sub-Committees and to consider other matters with a view to furthering the scheme of research work.

The question of the programme of work was then taken up for consideration.

In this connection, the Director of Industries and Commerce observed that he had collected information from all the Government and Government aided industrial concerns as to their requirements of raw materials and semi-processed goods which they were importing and the imports of which had been rendered both difficult and costly owing to the outbreak of hostilities in Europe. A list of such materials required by them had been circulated to members for information.

Proceeding, the Director said, that at the moment the possibilities of locally manufacturing such materials as were now being imported by the industrial concerns in Mysore for purposes of manufacture, as furnished in the list, might be taken up for investigation in the order of importance. This suggestion met with general approval.

The Committee examined in detail the various raw materials and semi-finished goods that the industrial concerns were importing and constituted the following Sub-Committees to examine and report the possibilities of manufacturing them locally.

(i) Manufacture of Super-phosphates.

This constituted an important manure which was at present being imported. The question of preparing this chemical from bone meal is at present engaging the attention of Mr. S. G. Sastry, Director, Sandalwood Oil Factory, and Dr. Krishnaswamy of the Indian Institute of Science. The following Sub-Committee was constituted to examine the possibilities of manufacturing it locally :—

1. Dr. J. C. Ghosh, D.Sc., F.N.I.,
   Director, Indian Institute of Science (*Convener*).
2. Mr. S. G. Sastry, B.A., M.Sc., F.C.S.,
   Director, Sandalwood Oil Factory, Mysore.
3. Dr. K. R. Krishnaswamy, B.A., D.Sc., (Lond.), F.I.C.,
   Indian Institute of Science.

Dr. Ghosh to be the co-ordinating member and convenor.

(ii) Manufacture of Hydraulic Lime.

This is required for paper and other industries. This is, at present, being imported from Belgium and some quantity from Dhronachalam and Rampur. There are good lime stone deposits near Voblapur and other places in the State. The Director of Geology has already carried out some investigations, the results of which are reported to be encouraging. The further investigation of the question was referred to the following Sub-Committee :—

1. Mr. B. Rama Rao, M.A., D.I.C.,
   Director of Geology (*Convenor*).
2. Dr. H. S. Sharma, Ph.D. (Lond.), D.I.C. (Lond.)
   Chemist, The Mysore Paper Mills, Bhadravati.
3. Mr. Balakrishna, B.A.,
   Mysore Iron and Steel Works, Bhadravati.
4. Mr. G. Gundu Rao, M.Sc., A.I.I.Sc.
   The Mysore Sugar Co., Ltd., Mandya.

(iii) Manufacture of Ferro Manganese, Ferro Silicon, etc.

These are, at present, being imported from abroad by the Mysore Iron and Steel Works. Mr. Venkatanaranappa said that Mr. D. V. Krishna Rao was conducting experiments in regard to its manufacture at the works.

It was decided that the experiment be continued at the Iron and Steel Works and that Dr. B. K. Ramprasad, Government Electrical Department, be associated with Mr. D. V. Krishna Rao.

(iv) Magnesite Bricks.

These are at present being imported from Messrs. Burns & Co.'s Potteries at Ranigunj.

Mr. Rama Rao said that he had conducted some experiments but that they were discontinued owing to lack of suitable raw material for the purpose.

Confidential.

BOARD OF INDUSTRIES AND COMMERCE.

Proceedings of the Meeting of the Industrial Research Bureau Sub-Committee of the Board of Industries and Commerce held in the Chambers of the First Member at 1 p.m. on Tuesday the 7th November 1939.

Chairman.

Rajamantrapravina N. Madhava Rau, B.A., B.L.,
First Member of Council.

PRESENT.

1. Dr. J. C. Ghosh, D.SC., F.N.I.,
Director, Indian Institute of Science, Bangalore.
2. Mr. M. S. Ramchendra Rao, B.A.,
Director of Industries and Commerce in Mysore.
3. Mr. M. Venkatanaranappa, B.A.,
Chairman, Mysore Iron & Steel Works, Bhadravati.
4. Mr. M. A. Srinivasan, B.A.,
Government Director of Industrial Concerns.
5. Mr. S. G. Forbes, E.E., B.SC., (E. & M.E.) MEM. A.I.E.E.,
Chief Electrical Engineer in Mysore.
6. Mr. T. G. Rama Iyer, B.A.,
Director of Agriculture in Mysore.
7. Mr. B. Rama Rao, M.A., D.I.C.,
Director of Geology in Mysore.
8. Mr. B. K. Murthy, B.E. (Mech.), M.SC. (Techl.), A.M.C.T.,
Principal, Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.
9. Mr. A. Venkata Rao Telang, M.A., F.INST.P.,
Professor of Physics, Central College, Bangalore.
10. Dr. B. Sanjeeva Rao, M.A., PH.D. (Lond.),
Professor of Chemistry, Central College, Bangalore.
11. Mr. E. K. Ramaswami, B.SC., A.C.G.I., M.A.S.M.E., M.I.E. (India),
Principal, College of Engineering, Bangalore.
12. Dr. M. N. Ramaswamy, M.SC., D.SC. (Munich),
Forest Chemist.
(Represented Chief Conservator of Forests in Mysore, absent on deputation).
13. Mr. P. H. Krishna Rao, M.A.,
Secretary to Government, Development Department.
14. Mr. V. Venkatachar, M.A., B.COM.,
Assistant Director of Industries and Commerce (*Secretary*).

ABSENT.

1. Mr. S. G. Sastry, B.A., M.SC. (Lond.), F.C.S.,
Director, Sandalwood Oil Factory, Mysore.
2. Mr. C. Abdul Jabbar, B.A.,
Chief Conservator of Forests in Mysore.

(Letters expressing their inability to attend the meeting were received from them).

Formation of a Central Industrial Research Board in Bangalore.

The Chairman referred to the decision adopted by the Board of Industries and Commerce at its meeting held on 15th July 1939 in favour of bringing into existence a Central Industrial Research Board in Bangalore both to co-ordinate research work carried on in the several Government Departments as well as to suggest new problems of industrial importance and guide research work on such lines as to prevent over-lapping, and observed that the questions relating to the personnel of the proposed Board and the programme of work should be considered at this meeting.

The Chairman requested Dr. J. C. Ghosh, Director, Indian Institute of Science, to give an idea regarding the constitution and working of the Bengal Industrial Research Board.

Dr. J. C. Ghosh explained that the Bengal Industrial Research Board was constituted of Technical Officers of Government, Professors of Science of University, Representatives of Chambers of Commerce and Technical Experts. The Board sent out enquiries to important industrial and commercial concerns, Chambers of Commerce, etc., to elicit information regarding problems of industrial importance and a Sub-Committee of the Board selected from out of the subjects suggested only such as were of immediate industrial importance. The subjects so selected were referred to Sub-Committees consisting of technical experts or University for detailed investigation and report and the funds required by them were placed at their disposal out of the funds granted to the Board by Government.

Dr. B. Sanjeeva Rao referred to the Committee of Scientific and Industrial Research in London and said that this Committee was conducting research work of scientific and industrial importance through its several Sub-Committees appointed for the purpose and was making the results of research work available to all those interested in them.

Mr. S. G. Forbes, explained that in U.S.A. there is a Central Research Institution which is undertaking research work of all kinds referred to it by industrial concerns, commercial and scientific bodies, etc., and making the results available to them. The institution was meeting the expenses involved out of the funds placed at its disposal by those entrusting it with research work.

Continuing, he said, that in view of the rapid industrial development of the country, a Central Research Board should be brought into being immediately and might be affiliated with such institutions in Britain and America to facilitate mutual exchange of information.

Mr. M. Venkatanaranappa suggested that in view of the diversity of the problems to be considered by the Board, investigations and research work on the several subjects must necessarily be carried on by a number of Sub-Committees consisting of technical men actually engaged in the particular line of research.

All the members were agreed that there was immediate need for a Central Research Board in Bangalore with a view to furthering scientific and industrial research of practical importance.

The Committee adopted the following Resolutions:—

This Committee recommends that, in view of the rapid industrial development that has taken place in Mysore and the need to undertake research on problems of industrial and commercial importance and value both to Government and aided industrial concerns working in the State, Government be moved to constitute at an early date a Central Industrial Research Board in Bangalore consisting of some of the heads of all Government Technical Departments, the Director of the Indian Institute of Science, Scientists engaged in research work, Representatives of Industrial Concerns in the State including the Kolar Gold Mining Companies.

This Committee recommends that the proposed Industrial Research Board should be independent of the Board of Industries and Commerce and should have a small Executive Body to attend to routine work;

that the functions of the Board will be to co-ordinate research work that is now being carried on in several technical departments of Government, to suggest problems of immediate or ultimate industrial importance for investigation and to guide research work on such lines as to prevent over-lapping, waste of time and money;

that such research work be carried on by Sub-Committees appointed for the purpose and in such places where facilities are available; and

(xxiv) Manufacture of Sodium-Bi-Chromate.

There is a good demand for this chemical also by the tanning and other industries in the State. A separate Sub-Committee of the Board of Industries and Commerce has been appointed to go into this question. Their report may be awaited.

The Sub-Committee resolved that these recommendations may be communicated to the Board of Industries and Commerce and to Government for consideration.

V. VENKATACHAR,
Secretary.

N. MADHAVA RAU,
Chairman.

WD 2977—GPB—200—12-12-39.

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

MYSORE GEOLOGICAL DEPARTMENT,

D. O. No. 639-15 Bangalore, 9th January 1940.

Dear Sir,

Referring to your D.O. letters No.337-50 dated 6th January 1940 requesting to be intimated the date on which and the place where I intend convening the meeting of the Sub-Committee regarding the marginally noted subjects, I wish to state that it is proposed to call for a meeting of the Sub-Committee during the last week of this month in this office.

1. Manufacture of Corundum wheels, sand paper, etc., Abrasive materials.
2. Manufacture of cement asbestos.

Yours sincerely,
B Ramarao

V. Venkatachar, Esq., M.A.,
B. Com.,
Secretary,
Board of Industries &
Commerce, Bangalore.

Submitted for kind perusal
10/1
10.1.40

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

No. D 3761 / Ifc 439-39-1

Dated, Bangalore, 8th February 1940.

From

The Secretary to the Government of His Highness the Maharaja of Mysore,
Development Department.

To

P.S.Narayana, Esq., B.A., B.Sc.,(Min.) M.M.G.I.,
Consulting Mining Engineer and Industrial Geologist etc.,
The Mines House, Malleswaram, Bangalore.

Sir,

I am directed to acknowledge the receipt of your letter No.9/40 M dated 3rd February 1940, to the First Member of Council, offering your services to the Sub-Committee appointed for the purpose of investigating the prospects for an Abrasives Industry in the State and to state that the same has been forwarded to the Secretary of the Industrial Research Bureau Sub-Committee of the Board of Industries and Commerce for necessary further action.

I have the honor to be,
Sir,
Your most obedient servant,

Sd/- C. E. Noronha,

Secretary to Government,
Development Department.

Memo No. D 3762

Copy of the above along with Mr.Narayana's letter is forwarded to the Secretary, Industrial Research Bureau Sub-Committee, Board of Industries and Commerce, for transmission to the Convenor of the Abrasives Sub-Committee.

By Order,

For Secretary to Government,
Development Department.

TS. 10.2.40. no.478/E1. 10.2.40

Copy of the above together with a copy of its enclosure is forwarded with compliments to Mr. B. Rama Rao, M.A., D.I.C., Director of Geology in mysore and convenor of the Abrasives Sub-Committee for information. SR/3 12.2.40

Letter No.9/40 M dated 3rd February 1940 from Mr.P.S.Narayana, B.A., etc., Consulting Mining Engineer etc., Bangalore, to the First Member of Council, Bangalore.

SUBJECT: Ref: Work connected with the Industrial Research Sub-Committee appointed for the investigation of prospects for Abrasives Industry in the State.

I have pleasure in informing you, that I would be able to actively participate in the work of the Sub-Committee immediately after my return to Bangalore from Lahore towards the end of this month.

I have to be in Calcutta next week and from there propose proceeding to Lahore as I felt it necessary to look into the actual working of the plants manufacturing abrasives in the North under the several conditions presenting there before more specific lines of approach for development in Mysore could be decided upon.

You can always count upon my hearty co-operation.

"Copy"

For Secretary to Government,
Development Department.

Immediate
No. 561

Bd. of Sc.

B'lore,
dt 5/3/60.

Dear Mr. Ramdas,

Adverting to yr. letter no
and no. 9.1527 dt 20.1.1960,
9639-15 dt 9.1.1960, I shall be
highly obliged
if you will
kindly let me
know if the
marginally noted
Sub. Committees had met during any of
these days and if so to kindly
arrange to send me, at an early
date, the proceedings of the
meetings for being placed before
the meeting of the Bd. of Sc.
which has been fixed to be held
on the 16th inst.

1. Manufacture of Corundum Wheels, Sandpaper, etc. abrasive materials.
2. Manufacture of Cement
3. Manufacture of Asbestos & Hydraulic lime
4. Manufacture of Alum.

Thanking you,

Yrs. Sincerely,

Dr. N
5/3/60.

N
6.3.60

B.
N
6.3.60

Sc/6/3

B. Ramdas, Esq. M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bl'lore

Mr. B. Rama Rao, M.A., D.I.C., F.G.S.,
Director of Geology.

Mysore Geological Department.

Bangalore, 11th March 1940.

D.O. No 4639-27.

Dear Mr. Venkatachar,

Referring to your D.O. letter No.561 dated 6th March 1940 requesting to let you know if the marginally noted Sub-Committees had met and, if so, to send the proceedings of the meetings for being placed before the meeting of the Board of Industries and Commerce on the 16th instant, I desire to state as follows :-

1. Manufacture of corundum wheels, sand paper, etc., abrasive materials.
2. Manufacture of cement asbestos.
3. Manufacture of Hydraulic Lime.
4. Manufacture of alum.

Regarding the manufacture of corundum wheels, sand paper etc., a note has been obtained from Professor H.C. Ghosh on the researches carried out in the Indian Institute of Science in the preparation of Emery wheels. Mr. P. Satyanarayana, Consulting Industrial Geologist, Malleswaram, Bangalore, who has done some work on this problem is, at present, at Lahore. After his return to Bangalore, the meeting of the Sub-Committee will be called for.

As regards manufacture of cement asbestos, the experiments had already been conducted. The subject was also informally discussed with Mr. S.G. Sastry, who is a member of the Sub-Committee. As he is also away on tour, the meeting of the Sub-Committee could not be called for.

Regarding manufacture of Hydraulic Lime, the exact specifications of lime required for the Mysore Paper Mills and the Sugar Factory have been ascertained by correspondence with the other members of the Sub-Committee. One of the Assistant Geologists of this Department will take up the investigation of the High Calcium Limestone deposits of Kondli-Voblapur area, keeping those specifications in view. Till we complete the field work and get the samples collected analysed, no useful purpose will be served by calling a

Sub-Committee meeting.

As regards manufacture of alum, the Chemist who was conducting the experiments has been obliged to be on long leave owing to a breakdown in health, leaving his experiments unfinish Till his return to duty and completion of investigations it will not be possible to proceed with the question of manufacturing alum. The investigations on the manufacture of aluminium sulphate are progressing and data regarding the cost of manufacture etc., are being collected.

Yours sincerely,
BR Ramaiya

V. Venkatachar, Esq., M.A., B.Com.,
Secretary,
Board of Industries & Commerce,
BANGALORE.

BR Office
all with Chemist

no 744

5th May 1940. XXX

V. Venkatachar Esq.,M.A.,B.Com.,
XXXXXXXXXXXXXXXXXXXXXXX

Dear Sir,

I am to invite a kind reference to your D.O. letter No.9639-27 dated 11th March 1940, para I, regarding the manufacture of corundum wheels, sand-paper etc., and to request you kindly to let me know if Mr.Satyanarayana, Consulting Industrial Geologist has since returned from Lahore and whether any meeting was convened in this behalf.

The favour of an early action is requested.

Yours sincerely,

B. Rama Rao Esq.,
M.A.,D.I.C.,F.G.S.,
Director of Geology in Mysore,
Bangalore.

SGR-2)

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

MYSORE GEOLOGICAL DEPARTMENT,

D. O. No. ~~G 2704~~ 4639-34.

Bangalore, 8th May 1940.

Dear Sir,

Manufacture of Corundum wheels, sand papers, etc.

Referring to your D.O. letter No.744 dated 5/6th May 1940, I desire to say that Mr. Satyanarayana, Consulting Industrial Geologist, has replied that he will be seeing me in the above connection on the 24th instant. I am not the Convenor of this meeting. I have arranged to see Professor Ghosh in this connection, at the Indian Institute of Science, soon after his return from Bombay, where he has gone now.

Yours sincerely,

B Rama Rao

V. Venkatachar, Esq., M.A., B.Com.,
Secretary,
Board of Industries & Commerce,
BANGALORE.

No. B.D.S. &c.

Dear Sir,

Manufacture of Corundum Wheels
Sand Papers etc

Referring to your D.O. letter No. 4639 dated 8th May 40, I am desired to invite a kind reference to page 6, Para (2) and also last sentence which indicates that you are the Convenor of the meeting. I note what all you say regarding other points.

Thanking You,

Yours truly,

B. Rama Rao Esq. M.A.
D.Sc. F.Gs.
Director of Geology in Mysore
Bangalore

W
11/5/40

B. I. C. 6]

No.	
Encl.	One

BOARD OF INDUSTRIES AND COMMERCE,

Bangalore, dated 8th. May *193*

From

V. Venkatachar, B. A., B.Com.,
~~R. ACHANTACHARIAR, M.A., B.L.~~

Secretary, Board of Industries & Commerce,
Bangalore.

To

Sir,

I am directed to forward herewith a ~~printed~~ typescript copy of the proceedings of the ~~Sub-Committee~~ Chemicals, Drugs, Essential Oils Sub-Committee meeting held on

for your information.

I have the honour to be,
Sir,
Your most obedient servant,

Secretary.

WD 0632—GPB—1,500—7-11 30

D° 773

15th May 40

Mr.V.Venkatachar,M.A.,B.Com.,
xxxxxxxxxxxxxxxxxxxxx

Dear Sir,

Manufacture of Corundum wheels, sand paper.

Refersing to your D.O.Letter No.4639-34 dated 8th May 1940, I am desired to invite a kind reference to page 6, para 2 of the last sentence of the proceedings of the meeting of the Industrial Research Bureau Sub-Committee held on 7th November 1939, which indicates that you are the convenor of the meeting.

I note that all you say regarding other points.

Thanking you,

Yours sincerely,

B.Rama Rao,Esq.,M.A.,D.I.C.,F.G.S.,
Director of Geology in Mysore,
Bangalore.

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL.

In all communications please quote our reference
No. G. 2886/Inci.

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 24th May 19 40.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

To

The Secretary,
Board of Industries
and Commerce,
BANGALORE.

SIR,

In continuation of my D.O. Letter No.G.2770 dated 11th May 1940 forwarding you copies of the proceedings of the Sub-Committee meetings, of which I was the Convenor, held during 4th, 6th and 7th instant, I have the honour to state that to discuss the question of the possibility of manufacturing emery wheels and other abrasive articles out of the raw materials available in Mysore I had met Prof. J. C. Ghosh, Director of the Indian Institute of Science on the 22nd May, and Mr. P. S. Narayana whom I have been asked to associate in this investigation had met me on the 23rd for discussion of the

P.T.O.

subject. The enclosed is a copy of the proceedings of the meeting.

I have the honour to be,
S i r ,
Your most obedient servant,

B. Ramakrishna

D I R E C T O R ,
Mysore Geological Department.

Ar. 24/5
Rec'd 25/5/[illegible]
Subject
Ackd 27/5 1) will be Acknowledged.
Dft put up 27/5 2) The proceedings may perhaps be submitted to the Chairman for kind perusal & orders
27/5
25/5
Secy)
27/5/[illegible]

792

Issued 28/5

27th May 0

The Director of Geology in Mysore,

Bangalore.

Sub-Committee meeting for Abrasive materials

I am directed to acknowledge with thanks the receipt of a copy of the Proceedings of the meeting of the above Sub-Committee held on 22nd May 1940, sent with your letter No. G.2886 dated 24th May 1940.

I have the honour to be,
Sir,
Your most obedient servant,

Secretary
for Board of Industries & Commerce

BRS.

MEETING OF THE SUB-COMMITTEE FOR ABRASIVE MATERIALS,

held at the Indian Institute of Science on 22nd May at 3 P.M.

Present:-

1. Prof. J. C. Ghosh, D.Sc., F.N.I.,
   Director, Indian Institute of Science.

2. Mr. B. Rama Rao, M.A., D.I.C., F.G.S.,
   Director of Geology in Mysore.

3. Mr. M. Srinivasiah, B.A., Ph.D.,
   Assistant Professor, Bio-Chemistry,
   Indian Institute of Science.
   (by request)

and on the 23rd May - at the office of the Director of Geology in Mysore.

1. Mr. B. Rama Rao, M.A., D.I.C., F.G.S.,
   Director of Geology in Mysore.

2. Mr. P. S. Narayana,
   Consulting Geologist.

.....

The Director of Geology explained that among the minerals used for abrasive purposes Corundum and natural Emery are the more important while garnet also is being used for some purposes. In Mysore true emery has not been located so far, but some tough basic rocks containing magnetite and other hard minerals had been tried as substitutes for true emery, but they were found to be very inferior in quality. Corundum is found in several places in Mysore and there are several varieties which differ from one another, slightly, in their hardness and other physical properties. We can group these into grey and pink varieties. Usually corundum is found in Mysore as coarse loose crystals scattered in the fields and they are picked up and collected by villagers while tilling the lands. Regular outcrops containing fairly rich proportions of corundum in the rock are not easily located and so far the few deposits which have been located and mined have shown, usually, grey crystals of corundum sparsely and patchily distributed in the rock. The cost of collection of corundum from such deposits are likely to be very high, but still

in view of the fact that the prices of imported emery and emery wheels have gone up very high it is a point for consideration whether we could not, in the present circumstance, profitably manufacture corundum wheels and other abrasive products mining and collecting the material from a few of the tested deposits. The Department has got a stock of about 30-35 tons of crude grey corundum, which after cleaning, sorting and grading might be tried for making corundum wheels.

Professor Ghosh requested Mr. Srinivasiah, who had furnished a note on the experiments he had conducted some 6 years back in preparing emery wheels, to explain what had been done in this direction.

Mr. Srinivasiah explained that some six years ago he had investigated the possibility of using the locally quarried emery as an abrasive and the Mysore grown lac as the binding material for making emery wheels. Using emery obtained through the Director of Industries and Commerce in Mysore, and the Shorea talura lac grown on the estate leased out to the Department of Bio-Chemistry, emery wheels had been prepared, mixing the two in different proportions. There were, however, several draw backs which characterised these experiments, - absence of suitable mixing for want of an efficient mixer, application of low pressure, entrainment of air in the moulded products and other defects which could not have been overcome then. There being better facilities now to conduct these experiments using a better binding material - Kusum lac - and in view of the great demand for emery wheels it is worthwhile to renew the experiments.

The Director of Geology stated that he was not aware of any natural deposits of true emery in Mysore and requested for a sample of the emery which had been used in the experiments to see wherefrom it had been obtained, and what exactly its composition was.

After some further discussion on the availability and process of preparation of raw materials necessary for manufacturing emery wheels, it was resolved that for ~~further~~ continuing the investigations;

1. The Director of Geology should investigate further the readily available resources of abrasive minerals in the State and also continue investigations regarding the preparation of raw corundum suitable for the purpose, viz., cleaning, sorting, crushing and grading the grains into the required sizes etc.

2. The Indian Institute of Science should investigate the suitability of the several varieties of binding medium and the most suitable process to be adopted for the purpose.

3. The Government Electric Factory to be requested to undertake investigations relating to vaccum mixing, moulding under high pressure and heating.

Mr. P. S. Narayana met the Director of Geology in this connection on the 23rd May after his return to Bangalore, from his travels outside the State. The Director of Geology detailed to him the proceedings of the meeting held the previous day and after discussion it was agreed that Mr. Narayana should continue his investigations regarding the preparation of emery paper, emery cloth, valve grinding material etc., using the locally available grey corundum and furnish the results of his experiments to the Director of Geology.

B. Ramarao

DIRECTOR.
MYSORE GEOLOGICAL DEPARTMENT.

MYSORE ECONOMIC CONFERENCE.

BOARD OF INDUSTRIES AND COMMERCE.

D.O. No. 793
one file

Subject Manufacture of Corrundum Wheels & other abrasive materials - Sub Committee

File No. of 19 .

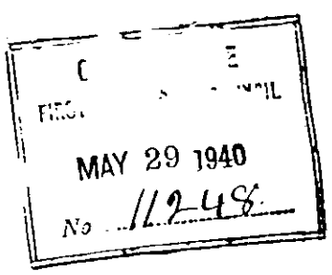
Subject

A copy of the Proceedings of the Sub-Committee for Abrasive materials held on 22nd May 1940 received from Mr. B. Rama Rao, Director of Geology in Mysore, Bangalore is herewith put up, together with the connected file for kind perusal.

28th May 1940

Secretary,

Director). Absent from H.Q on tour.



Chairman).

31/5/40.

NOTE—Contn. Sheet.

WD 921—GPB—1,500—26-9-28

Central Industrial Research Board.

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17. Manufacture of Corumdum Wheels, Sand Paper, etc. Abrasive materials:-

This Committee met twice; they have resolved that the Director of Geology and the Director of Indian Institute of Science should investigate further the availability of raw-materials, suitability of binding media and in the Electric Factory other investigations should be continued.

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

MYSORE GEOLOGICAL DEPARTMENT,

D. O. No. G. 941
Encl: one

Bangalore, 9th Nov. 1940

Dear Mr. Parthasarathy,

I have received an application from Mr. P.S. Narayana, who is associated in the Sub-Committee constituted to conduct investigations on the possibility of manufacturing abrasive articles from Mysore corundum etc., for a financial aid to the extent of Rs.2,000/- to enable him ro purchase some machinery etc. required for his investigations in connection with this problem. I have visited his laboratory and seen some of the products which he has made from the corundum powder which the Geological Department supplied to him for his investigations. Has the Board of Industries and Scientific Research, Commerce any grant specially set apart for such purposes and if so whether recommendations could be sent up to the Chairman of the Board for sanctioning the requests of grants for conducting investigations? An early reply in the matter is requested to enable me to dispose of Mr. Narayana's letter, a copy of which has been herein enclosed, which has been pending with me for some time.

(1) Ack
(2) Put up a note

Yours sincerely,
B Ramarao

13/11/40 — 12/11

K. Parthasarthy, Esq., ~~B.A.~~,
Secretary, Central Industrial Research Board,
General Manager, Government Electric Factory,
Mysore Road,
BANGALORE.

Copy of the letter No.3/A.R.40 dated 22nd October 1940 from P.S. Narayana, Esq., B.A., B.Sc., (Min.) etc., Consulting Industrial Geologist and Mining Engineer, Malleswaram P.O., Bangalore, to the Director of Geology and Convenor of the Abrasive Research Sub-Committee, Government of Mysore, Bangalore.

"Subject :- Manufacture of Abrasives from Mysore Minerals.

With regard to the preparation of Abrasives from the raw materials available in Mysore, I desire to say that having used grey corundum of Koratagiri, which you had supplied me for conducting investigations I have prepared corundum wheels, corundum paper, cloth and powder which I shown to you in my laboratory on the 19th instant. These have not yet been perfected and require further experiments to produce the quality comparable to those which are imported from outside. It is also necessary for me to conduct some further investigation regarding the selection of the right kind of adhesive suitable for the purpose. So far the Mysore Lac and leather glue have tries with fairly good results. But still further treatment and experiments are necessary to make them better fitted for our purpose in view.

I have also undertaken to prepare Valve grinding powders, polishing soaps and other kinds of finer abrasives like rouge from the raw mineral products available locally. To carry out all these investigations further, some financial contribution will be necessary for the purchase and building up of the necessary equipment, and it is believed these are likely to cost at least a further sum of Rs.2,000/- as detailed below.

1. Rs.500/- equipment for the preparation of the adhesives, (glue, lac, and other mineral and organic products)
2. Rs.1000/- equipment for grading and sizing the abrasives and for blowing the same on to the paper and cloth.
3. Rs.200/- equipment for the preparation of paper.
4. Rs.100/- equipment for the preparation of polishing soaps.
5. Rs.200/- equipment for the preparation of the finer abrasives, powders, and wheels.

P.T.O.

I shall be thankful if you kindly arrange to get this amount placed at my disposal to enable me to carry on the investigations. The results of these investigations will be ready by about the end of March 41".

B. Rama Rao

D I R E C T O R ,
Mysore Geological Depaetment.

M.G.9/11.

No 20/40-1

Industrial Research Board.

& Secretary
Industrial Research Board.

13th November 40.

Dear Mr.Rama Rau,

Refee: Your D.O.Letter No.G.941 dated 9th Novr.1940, forwarding the application of Mr.P.S. Narayana requesting for financial assistance to enable him to conduct investigations Re: abrasive articles.

With reference to the above, I write to inform you that in the Government Order No.D5934/I&C.376-39-4 dated 27/28th June 1940 sanctioning the formation of an Industrial Research Board in Bangalore, it is stated as follows:

"THE COST OF INVESTIGATIONS APPROVED BY THE SUB-COMMITTEE(Research Board) WILL ORDINARILY BE TREATED AS A PART OF THE REVENUE EXPENDITURE OF THE INSTITUTION OR INDUSTRIAL CONCERN SPECIALLY INTERESTED THEREIN. BUT WHERE ADDITIONAL FUNDS ARE REQUIRED, THE SUB-COMMITTEE MAY SUBMIT FOR THE CONSIDERATION OF GOVERNMENT, PROPOSALS FOR UTILISING THE GENERAL RESERVE OF INDUSTRIAL CONCERNS."

You will therefore see that the if the Mysore Geological Department is interested in the manufacture of Abrasive articles from the raw-materials available in Mysore, the cost of investigation thereof will have to be met out of the Budget Grants of the Department, if the investigations are approved by this Board. It is only in case when the cost of investigations cannot be met out of Departmental Grants, additional funds will be recommended by the Board for consideration of Government.

It is therefore necessary that this investigation should be first got approved by the Board and the Board intimated whether the cost could or could not be met out of the Departmental Budget Grants.

I hope I have made myself clear.

Yours sincerely,

B.RAMA RAU,Esq.,M.A.,D.I.C.,F.G.S.,
Director of Geology in Mysore,
Bangalore.

B. I. C. 2]

No. 158

Encl. one

BOARD OF INDUSTRIES & COMMERCE.

Bangalore, dated 12th Nov. ..... 1940.
/18

From

V. VENKATACHAR, Esq., M.A., B.Com.,
Secretary, Board of Industries & Commerce,
BANGALORE.

To

K.Parthasarathy, Esq., B.A.,
General Manager, Government Electric Factory,
& Secretary Industrial Research Board, Mysore Road,
BANGALORE.

Sir,

I have the honour to forward the enclosed application of Mr. P.S. Narayana for kind disposal.

I have the honour to be,
Sir,
Your most obedient servant,

SECRETARY.

Subject — a copy of Mr. Narayana's application and has already been sent from Dr. & Geology & he has also been applied. Dr. & Geology has addressed Govt. copy of his letter and in 4 days post subject separately — this will therefore be filed. 3/11/40.

NEM:

Copy of application No. 3/AR 40 dated 22nd October 1940, from Mr. P.S.Narayana, B.A., B.Sc.(Min.), M.M.G.I.? F.G.M.S., Consulting Industrial Geologist and Mining Engineer, Engineering and Mineral Industrial Research Laboratory, Malleswaram P.O., Bangalore to the Director of Geology and Convenor of the Abrasives Research Sub-Committee, Government of Mysore, Bangalore.

Subject:- Manufacture of Abrasives from Mysore Minerals.

"With regard to the preperation of Abrasives from the raw materials available in Mysore, I desire to say that having used grey corundum of Koratagiri, which you had supplied me for conducting investigations, I have prepared corundum wheels, corundum paper, cloth and powder which I have shown to you in my laboratory on the 19th instant. These have not yet been perfected and require further experiments to produce the quality comparable to those which are imported from outside. It is also necessary for me to conduct some further investigation regarding the selection of the right kind of adhesive suitable for the purpose. So far the Mysore Lac and Leather flue have been tried with fairly good results. But still further treatment and experiments are necessary to make them better for our purpose in view.

I have also undertaken to prepare value grinding powders, polishing soaps and other kinds of finer abrasives like rouge from the raw mineral products available locally. To carry out all these investigations further, some financial contribution will be necessary for the purchase and building up of the nessary equipment, and it is believed these are likely to cost at least a further sum of Rs. 2,000/- as detailed below:-

1. Rs. 500/- equipment for the preperation of the adhesives, (glue, lac, and other mineral and organic products)
2. Rs. 1000/- equipment for grading and sizing the abrasives and for blowing the same on to the paper and cloth.
3. Rs. 200/- equipment for the preperation of paper.
4. Rs. 200/- equipment for the preperation of polishing soaps.
5. Rs. 200/- equipment for the preperation of the finer abrasives, powders, and wheels.

I shall be thankful if you kindly arrange to get this amount placed at my disposal to enable me to carry on the investigations. The results of these investigations will be ready by about the end of March 1941.

"Copy"

(Sd.) B. Rama Rao.

NRM: for Director.
Mysore Geological Department

D^r of Geology has been addressed
by me in this matter.

2 19/11

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

MYSORE GEOLOGICAL DEPARTMENT,

D. O. No. 9774 - 14.
Encl: one

Bangalore, 21st November 1940.

Dear Sir,

I have enclosed herein a copy of the proceedings of the meeting of the Sub-Committee, for Research on Abrasive Products, held on the 20th November 1940, for your information.

No. 47/40-1 Ackd on card 23/11/40.

1) Ack. —

2) Submit This Note to Chairman for kind perusal & orders

Yours faithfully,

B Ramarao

CONVENOR,
Sub-Committee for Abrasives.

23/11/40

The Secretary, 23/11.
Industrial Research Board,
Bangalore.

Abrasive Materials

PROCEEDINGS OF THE 2ND MEETING OF THE SUB-COMMITTEE
held at the Office of the Director, Indian Institute of Science
at 4 P.M. on Wednesday the 20th November 1940.

Present

Prof. J.C. Ghosh (Member)
Mr. P.S. Narayana (Member)
Mr. B. Rama Rao (Member and Convenor)

---

(1) The reports on the tests of samples of Staurolite paper and cloth (abrasive products), prepared by Mr. P.S. Narayana, were read.

(2) Mr. Narayana's application to the Convenor of the Sub-Committee requesting for a grant of Rs.2,000/- to enable him to conduct further needful investigations on the preparation of abrasive products from Mysore materials was taken up for consideration.

After discussion of all aspects it was resolved, that in view of the satisfactory reports on the quality of samples of abrasive products (Staurolite paper and cloth) prepared by Mr. P.S. Narayana, it is desirable that the production of these abrasive products on a pilot plant scale should be undertaken at an early date. The Committee recommends that an expenditure not exceeding Rs.2,000/- be sanctioned for the purpose of this investigation on the following conditions :-

(i) The detailed plans and estimates for the five items of equipment as noted in Mr. Narayana's application for grant should be supplied by him for scrutiny.

(2) The payment out of the grant should be made by the Director of Geology on presentation of bills by Mr. Narayana.

(3) The equipment purchased out of this grant shall be the property of Mysore Government.

(4) The results of investigations shall be the property of Mysore Government subject to the proviso that when those results are commercially exploited suitable compensation be paid to Mr. Narayana.

Bangalore,
20th November 1940

Bhamaiah

C O N V E N O R,
Sub-Committee for Abrasives.

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference No. 9774-15/Geol:2.

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 22nd Nov. 1940.

23/11/40.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,

Director of Geology in Mysore,

Bangalore.

To

CHARLES E. NORONHA, ESQ., M.A.,
Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department, Bangalore.

SIR,

I have the honour to submit, for favourable orders of Government, a copy of an application dated 22nd October 1940 from Mr. P.S. Narayana, a consulting geologist, in Malleswaram, Bangalore, praying for a grant of Rs.2,000/- to enable him to continue and complete his investigations on the preparation of abrasive products from some of the Mysore minerals. In this connection, I desire to say that this Department had been investigating the possibility of utilising corundum, garnet, staurolite and a few other minerals found in some parts of Mysore for abrasive purposes; and the Indian Institute of Science also had conducted some investigations in preparing corundum wheels using local lac and shellac as binding material. At a special meeting of the Industrial Research Bureau Sub-Committee of the Board of Industries and Commerce, held on 7th November 1939, to constitute various Sub-Committees to co-ordinate and direct allied investigations undertaken simultaneously by several institutions in Bangalore, the Director of Geology was asked to pursue further investigations on abrasive materials in co-ordination with the Director of the Indian Institute of Science and also associating with Mr. P.S. Narayana who had been reported to be doing some work in this line.

In the first meeting of this Sub-Committee for "Abrasive Materials" held on 22nd May 1940, after taking into consideration the investigations which each institution had done till then, division of work for further investigations were discussed and

p.t.o.

decided. Pursuant to this programme Mr. Narayana continued his investigations with the graded corundum powder, staurolite and tourmaline as supplied by the Geological Department. Of the trial articles prepared by him, on actual tests staurolite paper and cloth were found to compare well with the imported "Emery Papers"; but the corundum wheels were not of the required standard and needed further trials and experiments.

The Sub-Committee for "Abrasive Materials" met again on the 20th November 1940 for considering the results obtained so far and it was of opinion that the investigations should be conducted on a pilot plant scale preparing larger sheets and other abrasive products in standard sizes, and to enable Mr. Narayana to continue these investigations the Government should be requested to grant him, under certain conditions, a sum not exceeding Rs.2,000/- for the equipment of the necessary plant and purchase of the required raw materials. A copy of the resolution passed in this connection by the Sub-Committee is herein enclosed for the information of Government.

Under these circumstances, I beg to recommend that Government may be pleased to sanction the grant of Rs.2,000/- for continuing Mr. Narayana's investigations on preparing abrasive products from Mysore minerals, from the funds at the disposal of the Central Industrial Research Board, under the following conditions, as proposed by the Sub-Committee :

(1) The detailed plans and estimates for the five items of equipment as noted in Mr. Narayana's application for grant should be supplied by him for scrutiny.

(2) The payment out of the grant of Rs.2,000/- earmarked for the purpose of this investigation, should be made to Mr. Narayana on bills presented by him and countersigned by the Director of Geology.

(3) To purchase glue, cloth and sundry articles necessary for the purpose of this investigation, Mr. Narayana be allowed to hold a permanent imprest advance of Rs.50/- out of the above grant of Rs.2,000/- during the period of the investigation.

(4) Mr. Narayana should furnish account, supported by vouchers, for all the expenditure incurred out of this grant, to the Director of Geology.

(5) The equipment purchased out of this grant shall be the property of Mysore Government.

(6) The results of investigations shall be the property of Mysore Government subject to the proviso that when these results are commercially exploited suitable compensation be paid to Mr. Narayana.

I have the honour to be,
Sir,
Your most obedient servant,

(Sd) B. Rama Rao,

D I R E C T O R ,
Mysore Geological Department.

Ar.22/xi

№ 9774-16 dt 22-11-40.

Copy forwarded, with compliments, to the Secretary, Industrial Research Board, Bangalore, for information in continuation of this office No.9774-14 dated 21st November 1940.

BRamaRao

D I R E C T O R ,
Mysore Geological Department.

Ar.22/xi

TEL. ADDRESS—"MACHINER" TELEPHONE No. 2002, CITY.

(GOVERNMENT OF MYSORE)

THE CENTRAL INDUSTRIAL WORKSHOP

(Department of Industries and Commerce)

MR. A. V. RAGHAVACHAR, B.Sc. (MYSORE),
M.Sc. (TECH.), MANCHESTER, A. M. I. MECH. E. (LONDON),
A. M. I. E. (INDIA),
INDUSTRIAL ENGINEER AND SUPERINTENDENT.

Ref. No. 282
Encls. 1

Bangalore, 18th November *194* 0.

To

The Director of Industries
and Commerce in Mysore,
Bangalore.

Sir,

In continuation of my report No.275 dated 16th November 1940 on the quality of Abrasive papers submitted by Mr. P.S. Narayana, I receive another sample which was also put to the test.

This was found to be much better in quality than the one given by him previously. The abrasive particles seem to have a better polishing effect than the imported variety, but the adhesion between the particles is however poorer with the result that the life is on the whole shorter.

I have the honor to be,
Sir,
Your most obedient servant,

A V Raghavachar 18.11.40

RVR-PRF-3). Superintendent.

Copy of the above is forwarded to Mr.P.S. Narayana B.Sc.,etc., Consulting Engineer-Geologist, for information.

L. Muniswamy
Asst. Superintendent.
~~Asst. Director~~.
for Director

TEL. ADDRESS– "MACHINER" TELEPHONE NO. 2002. CITY

(GOVERNMENT OF MYSORE.)

THE CENTRAL INDUSTRIAL WORKSHOP,

V.Raghavachar,Esq,B.Sc (Department of Industries and Commerce)

tc. [illegible]

INDUSTRIAL ENGINEER AND SUPERINTENDENT.

Ref. No. 275
Encls. 1

Bangalore, 16th November 1940.

To

The Director of Industries
and Commerce in Mysore,
Bangalore.

Sir,

I have the honor to report that I have put the samples of the Abrasive papers supplied by Mr. P.S. Narayana to test in the Shops with the following results.

1) Two samples were taken - one the best quality imported sand paper and the other the pieces supplied by Mr. Narayana. They were tried dry on wood. The latter was found superior.

2) The samples supplied by Mr. Narayana was compared with imported emery cloth and tested wet with oil and tried on mild steel. The imported variety was very much superior. The difficulties appear to be the ~~attrition~~ adhesion between the particles of the abrasive substance does not seem to hold them together during the process of rubbing with the result that they easily disperse and the life is very short. Moreover, the imported variety has a backing of cloth which seems to contribute to certain extent to its better ~~way~~ wear.

I have the honor to be,
Sir,
Your most obedient servant,

sd. A.V. Raghavachar,
Superintendent.

AVR-PRF-3). 1048

Copy of the above is forwarded to Mr. P.S. Narayana, B.A., etc., Consulting Engineer & Geologist, Malleswaram P.O., Bangalore, for information.

A.V. Raghavachar
Superintendent.

PRF.

INDIAN INSTITUTE OF SCIENCE,
P. O. HEBBAL, BANGALORE.

K. B. KRISHNA RAU, B.A., B.E., A.M.I.E., (IND).
LECTURER, MECHANICAL ENGINEERING.

TELEGRAMS:
"SCIENCE" BANGALORE
CODE: A.B.C. 5TH EDITION
TELEPHONE NO. 2022

CENTRAL WORKSHOP

Your Ref:—

Our Ref:— C.W.1233.

Date 8th November 1940.

Dear Mr. P.S. Narayana,

With reference to the samples of abrasive papers and cloths and polishing soap you gave for being tested here, last week, I am glad to say that they are quite satisfactory as compared with the ordinary imported stuff. I would however suggest that you send samples of these to several Engineering Institutions and Firms for their trial and opinion.

As regards the grinding wheel you made, I suppose you have been able by this time to have it tested elsewhere as we could not fix the same on our machine, for a trial.

Why not you equip your laboratory with some facilities for testing your products before being sent anywhere else for testing? I suppose the equipment you need will not cost much more than a couple of thousands?

I shall be very pleased to know now and then about the progress you make in your industrial research.

With my best wishes,

Yours sincerely,

K B Krishna Rao

Sri, P.S. Narayana,
B.A., B.Sc., M.M.G.I.,
F.G.M.S. Etc.,
Consulting Industrial Geologist,
& Engineer,
41, East Park Road, Malleswaram P.O.

UNIVERSITY OF MYSORE.

No. .....

Encl. .....

COLLEGE OF ENGINEERING,
BANGALORE.

Dated the ....16th November....1940.

From

E. K. RAMASWAMI, Esq., B.Sc. (Engng., London), A.C.G.I., A.M.I.M.E., M.A.S.M.E., M.I.E.,
PRINCIPAL, COLLEGE OF ENGINEERING,
BANGALORE.

To

This is to certify that the ~~Emery~~ abrasive sheet supplied by Mr. P. S. Narayan is as good as the best imported article of the type.

E K Ramaswami

PRINCIPAL.

Tel. Address—"MACHINER" *Telephone No. 2002, City*

(Government of Mysore.)

The Central Industrial Workshop,

(Department of Industries and Commerce)

A. V. Raghavachar, Esq.,
B.Sc., (Mys.). M.Sc., (Tech.) (Manchester),
A.M.I. Mech. E. (Lond)., A.M.I. ~~Mech~~ E. (Ind).,
INDUSTRIAL ENGINEER, AND SUPERINTENDENT.

Ref. No ..2.91.....
Encls......

Bangalore,..25th..Novr...*194* 0.

To

The Director of Industries
and Commerce in Mysore,
Bangalore.

Sir,

The pieces of abrasive paper supplied on 25-11-1940 by Mr. P.S. Narayana was tried. In milling steel There appears to be an improvement in bond.

I have the honor to be,
Sir,
Your most obedient servant,

sd. A.V. Raghavachar.
Superintendent.

AVR-PRF-3).

P.T.O.

1120

Copy of the foregoing is forwarded to Mr.P.S.Narayan B.A., etc.,Consulting Engineer & Geologist, Malleswaram P.O., Bangalore for information.

By Rachaiah
Superintendent.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

Read:—

Letter No.D.5934/I&C.376-39-4, dated the 28th June 1940, to the Director of Industries and Commerce in Mysore, appointing a sub-Committee to review the progress amd co-ordinate the work of Scientific and Technical Research under the auspices of the Industries and Commerce Board.

2. Letter No.D.2223/I&C.376-39-7, dated the 16th November 1940, to the Government Director, Industrial Concerns stating, inter alia, that the source from which additional expenditure on account of research work has to be met might be determined while dealing with the proposals as and when they are actually received.

3. Correspondence ending with letter No.9774-15, dated the 22nd November 1940, from the Director of Geology, recommending, in the circumstances stated, sanction for the grant of Rs.2,000/- to Mr. P.S. Narayana, B.A., B.Sc., (Min), etc., ~~Engineer-Geologist~~ Consulting Engineer and Geologist, Malleswaram, to enable him to continue his investigations on the preparation of abrasive products from Mysore minerals, under the following conditions:-

(1) The detailed plans and estimates for the five items of equipment as noted in Mr. Narayan's application for grant should be supplied by him for scrutiny, viz,

i. Rs.500/- equipment for the preparation of the adhes (glue, lac, and other mineral and organic products)

II. Rs.1,000/- equipment for grading and sizing the al sives and for blowing the same on to the paper and cloth.

iii. Rs.200/- equipment for the preparation of paper

iv. Rs.100/- equipment for the preparation of polis/ng soaps.

Rs.200/- equipment for the preparation of the finer abrasives, powders, and wheels.

(2) The payment out of the grant of Rs.2,000/- earmarked for the purpose of this investigation, should be made to Mr. Narayana on bills presented by him and countersigned by the Director of Geology.

(3) To purchase glue, cloth and sundry articles necessary for the purpose of this investigation, Mr. Narayana be allowed to hold a permanent imprest advance of Rs.50/- out of the above grant of Rs.2,000/- during the period of the investigation.

(4) Mr. Narayana should furnish account, supported by vouchers for all the expenditure incurred out of this grant, to the Director of Geology.

(5) The equipment purchased out of this grant shall be the property of Mysore Government.

(6). The results of investigations shall be the property of Mysore Government subject to the proviso that when these results are commercially exploited suitable compensation be paid to Mr. Narayana.

ORDER No. D 2908-11/ Ire 230-40-8

Dated, Bangalore, 23 December 1940.

Sanctioned.

2. As regards the source for meeting the expenditure, Government are pleased to sanction an additional grant of Rs.2,000/- for the purpose. A demand to this extent will be placed before the Legislative Council, at its next session.

23/12/40

Secretary to Government,
Development Department.

To
The Director of Geology in Mysore.
The Comptroller to Government of Mysore, through Finanical Dept
P.T.O

Copy to

a) Mr. P. S. Narayana, B.A., B.Sc., (MAM), etc.,
Mulbagal

b) The Secretary, Archaeological Research
Sub-Committee, Bhore.

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat.

No. D 3039 / Dc 230-40-12

Dated, Bangalore, 6 January 1941.

FROM

The Secretary to the Government of His Highness the Maharaja of Mysore.
DEVELOPMENT DEPARTMENT.

To

The Secretary,
The Industrial Research Sub-Committee,
Government Electric Factory,
Mysore Road, Bangalore.

Sir,

Manufacture of (1) Abrasives and (2) Graphites etc.,
in the State.

In forwarding herewith the schemes on the above subject prepared by Mr. P. S. Narayana, Consulting Engineer and Geologist, Malleswaram, I am directed to request you to be so good as to place them before the appropriate Sub-Committee and forward its views to Government within a fortnight.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 69/40-1 Date 7-1-41

I have the honour to be,

Sir,

Your most obedient servant,

SECRETARY TO GOVERNMENT,
DEVELOPMENT DEPARTMENT.

XXX

IN-3) 7. 1. 41

note Subjt

7/1/41

B. S. Narayana, B.A., B.Sc., etc.,
ember of Abrasives Research
Sub Committee.

Bangalore, 25th Novr. 1940.

Dear Sir,

Herewith a brief note on the work done with the copies of communications received from three independent institutions.

Yours sincerely,

B. S. Narayana

The Director of Industries and Commerce
in Mysore, Bangalore.

Seen by the 1st Member
26/11

57.9/40-1

Brief Report of work done in connection with investigations relating to the manufacture of corundum wheels, emery powders, abrasive paper and cloth, finer polishes and valve grinding pastes etc., using available raw materials in Mysore State. (Conducted in the Engineering and Mineral Industrial Research Laboratory, Malleswaram of Mr. P. S. Narayana, Member of the Abrasives Research Sub Committee, formed by the Board of Industries and Commerce, Bangalore).

It was on in November 1939 that a Sub Committee consisting of Messrs. Professor Ghosh, P.S.Narayana and B.Rama Rao (Convenor) was constituted by the Board of Industries and Commerce for carrying on systematic investigations relating to the manufacture of corundum wheels, paper and cloth etc. Some important work in this connection which had already been done by the undersigned and which had been stopped owing to the undersigned's absence from Bangalore for a short time was resumed at the instance of the Sub Committee and work on local materials was commenced in the month of May with Koratagiri grey corundum supplied kindly by the Department of Geology.

Abrasive papers and cloth made out of the grey corundum were found to be satisfactory. Corundum wheel made with Lac as binding material also gave good results, and it was found necessary to grade abrasive materials as well as the adhesive materials for specific purposes for the finished products to be comparable to the imported staff.

Later on Mysore Staurolite and tourmaline supplied by the geology Dept were tried. Staurolite minerals gave the best results. Dolerite, quartzites, Hiriyur type sands, bauxite, kyonite, clay, and glass powders were among others that were experimentally tried.

Adhesive used in the manufacture of paper and cloth was glue. It was made by the undersigned under controlled temperature conditions from leather fleshing obtained from local tanneries.

The yield was quite high, nearly 40% and a high manurial value bye-product was obtained. Giving a value to the bye-product, it is worked out that glue for the development of abrasive industry could be manufactured at a flat level of As. 2 to As.2/6 per lb. from local material, taking into consideration all fluctuations possible in price levels of the sever l commodities entering as raw materials in the glue industry.

The physical properties of the minerals being experimented upon in terms of their hardness, toughness, and durability are being determined with a view to control the maximum quantity of abrasive material used for each unit area of surface required in connection with workshop practice using hard tools, steel, mild steel, low tensile strength materials besides wood, granite, marble sandstone, cement concrete, leather, rubber, ivory, bone and other materials.

The use of starolite and corundum in mixed grades in the manufacture of grinding wheels with several types of binding materials and fluxes is under active investigation. As already stated a wheel was made and tested with encouraging results. For the full schedule of tests to be carried out it has become essential to develop the necessary equipment for testing the material produced, in the undersigned's laboratory and arrangements are being made to meet that end and for the full standardisation of all abrasive materials and minerals as it is found that such equipment is not available, readily in any of the local laboratories

Paper and cloth -- various makes of Indian paper and cloth for mounting the abrasive materials were tried to determine the exact weight of such paper and cloth required for each unit area of surface and the strength required for work with the local adhesives and abrasives. It is found as a result of work done so far that it is economical to use local paper and cloth besides local minerals and adhesives to be able to manufacture finished goods with a fair margin of profit. The cost of differentia

differential between imported paper and cloth and the xx varieties that could be made here is very high. The chemical composition shape and size of the particles of the various abrasive materials besides chilled cast iron and the nature of the surfaces, they offered on mounting on paper and cloth seem to be good factors for developing local industry. Corundum and staurolite paper and cloth prepared by the undersigned in sizes of 12" x 10" were therefore sent to the Government Industrial Workshop, Engineering College Workshop and the Central Workshop of the Indian Institute of Science for trial and testing, under similar conditions with imported cloth and paper. All of them found the materials prepared by the undersigned from local materials to be as good as the imported varieties in use for several purposes as could be seen from the copies of communications received, which are enclosed herewith for perusal.

Manufacture of mild abrasives and polishes like staurolite lustre and valve grinding pastes and compounds like rouge and crocus have been tried with success and further work on polishes for electroplating work and pastes with graphite and grease is in progress.

Samples of natural emery and type material found in some of the characteristic charnokite areas outside the State have been sent to the Director of Geology with a view to see if there are any similar formations in the State. ~~Xxxxxxxxx~~

Much work in the standardisation of all materials that go to make up finished products as already stated was found essential and therefore a certain amount of ~~dx~~ fundamental research into the properties of the several raw materials have been taken up and the manufacture of sodium silicate, magnesium chloride, magnesite cement, vitrifying clays and fluxes ~~like soda felspar~~, besides glue, gilatin, casein, starch and other adhesives and hand made paper weighing about 18 to 15 grams per square foot, have become side issues in their own turn leading to the obtaining of sever l other

incidental products.

The total minimum requirement in the State on the several abrasives materials used in every day practice worked out over a lakh of rupees, Mechanical plant and equipment for the manufacture of the several varieties under standard conditions is being designed by the undersigned and is expected to be ready within a couple of weeks.

The work on this subject was first commenced under systematic programme of mineral industrial research planned out by the undersigned in the interest of science, education and industry. The Director of the Indian Institute of Science and the First Member of Council to the Government of Mysore were good enough to visit the undersigned's laboratory last year and evinced great interest in the work that was being done then. Since the Sub-Committee is formed in November and work was resumed in May the Director of Geology was good enough to visit the same and see for himself the several phases of work in progress.

The undersigned is much grateful to the Government of Mysore for their continued interest and co-operation in the matter.

Bangalore,
25th Novr. 1940.

To
The First Member of Council
With Compliments
PSR

295/401
ave

9th January 1

Immediate.

B. Rama Rau, Esq., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

Subject: Manufacture of Abrasives ~~and Corundites etc~~.,
in the State.

In forwarding herewith in original the scheme on the above subject, ~~the memorandum~~ prepared by Mr.P.S. Narayana, Consulting Engineer and Geologist, forwarded by Government, I am directed to request you to be so good as to immediately convene a meeting of the Abrasives Sub-Committee and to place before them the scheme ~~and note~~ for consideration.

Since Government desire to have the report in a fortnight's time, I shall be obliged if the views of the Sub-Committee is -- intimated to me by the 18th instant.

The enclosures may kindly be returned when done with.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

For Graphite note -
See Graphite Electrode
file

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference
No. 9776-38.

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 11th Jan. 1941

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,

Director of Geology in Mysore,

Bangalore.

TO

K. Parthasarathi, Esq., B.A.,
Secretary,
Industrial Research Board,
Bangalore.

SIR,

Manufacture of Abrasives in the State.

With reference to your letter No.295/40-1 dated 9th January 1941 forwarding a note by Mr. P.S. Narayana and requesting me to convene a meeting of the Sub-Committee for abrasives, before the 18th instant, to consider the proposals sent by him and submit a report on the Resolutions of the Sub-Committee in this connection, I have the honour to state that Prof. J.C. Ghosh, a member of the Sub-Committee, is not in the station and he is expected to return only about the 24th of this month. As his presence will be necessary in the meeting for consideration of the proposals sent, I desire to say that a meeting will be convened for the required purpose as early as possible after Prof. Ghosh's return to Bangalore.

I have the honour to be,
Sir,
Your most obedient servant,.

B Ramarao

D i r e c t o r ,
Mysore Geological Department.

INDUSTRIAL RESEARCH BOARD
No. 118
Date 13/1/41
BANGALORE.

13/1/41

Ar.11/1 13/1

Copy of letter No.D.3041/I&C 230-40 dated 6th January 1941, from the Secretary to the Government of His Highness the Maharaja of Mysore, Development Department, Bangalore, to the Secretary, Board of Industries and Commerce, Bangalore.

I am directed to state that the Government Director, Industrial Concerns, Bangalore, and Mr. P.S.Narayana, Consulting Engineer and Geologist, Malleswaram, should be added to the Sub-Committee constituted for the manufacture of "Abrasive Materials" if they are not members of it already.

No. 192/40-41

Office of the Secretary,
Board of Industries and Commerce,
Bangalore, 18th January 1941.

Copy of the above is forwarded with compliments to the Secretary, Central Industrial Research Board, Government Electric Factory, Mysore Road, Bangalore, for information and taking action.

M.V. Siddalingappa
Secretary I/C.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 155/40-1
Date 23/1/41
BANGALORE.

M.M)18-1-41.

Copy forwarded e/c to the Dir. of Geology & Convener, Abrasives Sub-Committee for taking necessary further action.

Secretary,
Industrial Research Board,
BANGALORE.

23/1

Copy of letter No.D.3041/I&C.230-40 dated 6th January 1941 from the Secretary to the Government of Mysore, Development Department to the Secretary, Board of Industries and Commerce, Bangalore.

I am directed to state that the Government Director, Industrial Concerns, Bangalore and Mr.P.S. Narayana, Consulting Engineer and Geologist, Malleswaram should be added to the Sub-Committee constituted for the manufacture of "Abrasives Materials" if they are not members of it already.

Copy of the above is forwarded with compliments to the Secretary, Industrial Research Board, Bangalore for information and taking action (vide letter No.192/40-41 dated 22nd January 41).

No.341-1/40-41

Office of the Secretary,
Industrial Research Board, Mysore
Road, Bangalore, 23rd January 41.

1) Copies of the above is forwarded with compliments to the Director of Geology in Mysore and Convenor, Abrasives Sub-Committee, Bangalore for favour of necessary further action. Mr.P.S. Narayana, is already on the Sub-Committee.

2) Copies of the above is forwarded with compliments to the Government Director, Industriel Concerns, Bangalore for favour of information.

Secretary,
Industrial Research Board.

HSR-3)

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference
No. 9774-43

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 23rd Jan. 1941.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,

Director of Geology in Mysore,

Bangalore.

TO

K. Parthasarathi, Esq., B.A.,
Secretary,
Industrial Research Board,
Bangalore.

DEAR SIR,

Ref: Abrasives.

In continuation of my letter No.9774-38 dated 11th January 1941 on the above subject, I desire to say that Mr. P.S. Narayana has not yet completed his investigations. On his application for a grant of Rs.2,000/- to continue his further investigations, the Abrasive Sub-Committee after considering the merits of the case recommended to Government the grant of this amount under certain conditions, to enable Mr. Narayana to prepare the abrasive articles on a pilot plant scale. The machinery

P.T.O.

and appliances required for these investigations have just been ordered; and till Mr. Narayana completes his investigations and submits his final report embodying his proposals, no useful purpose will be served by convening a meeting of the Abrasive Sub-Committee, as it will not be in a position, without scrutinising Mr. Narayana's final report and proposals, to arrive at any definite conclusion or submit any specific recommendations for consideration of Government. Consequently the meeting of the Abrasive Sub-Committee has to be postponed for the present, and will be convened as soon as I get Mr. Narayana's final report.

Yours faithfully,

B Ramarao

D I R E C T O R ,
Mysore Geological Department.

Ar.23/1 XX

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE.
No. 159
Date 25/1/61

Refer with a note

Subs with Refer 2 of Note

27-1-61

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

General and Revenue Secretariat.

No. D 3476 / Ire 230-40.

Bangalore, dated 26 January 1941.

FROM

The Secretary to the Government of His Highness the Maharaja of Mysore.
Development Department.

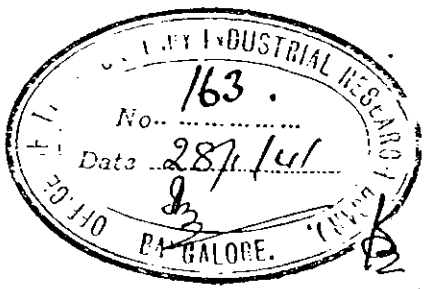
To

The S e c r e t a r y,
Industrial Research Board,
B a n g a l o r e.

S i r,

Subject:- Manufacture of Abrasives and Graphites etc., i n t h e S t a t e.

I am directed to invite reference to this office letter No.D.3039 dated 6th January 1941 on the above subject and to request you kindly to forward the views of the Committee on the matter immediately.



I have the honour to be,
S i r,
Your most obedient servant,

for Secretary to Government
Development Department.

NDA. 2 Subdy
Note put up
28/1/41

393/40-1 Eng: Jour.

31st January 1

M. Venkatesa Iyengar, Esq., M.A.,
Secretary to the Government of Mysore,
Development Department, Bangalore.

Subject: Manufacture of Abrasives and Graphites in the State.

With reference to your letter No.D.3039/I&C.230-40-12 dated 6th January 1941, forwarding the schemes on the above subject prepared by Mr.P.S. Narayana, Consulting Industrial Geologist and requesting to forward the views of the appropriate Sub-Committee, I am directed to state that the Director of Geology who is the Convenor of the Abrasives Sub-Committee is of opinion that without scrutinising Mr.Narayana's final report on his further investigations, the Sub-Committee will not be in a position to arrive at definite conclusion and submit specific recommendations on the present scheme, for consideration of Government. I send herein enclosed a copy of letter No.9774-43 dated 23rd January 1941, received from the Director of Geology, for the information of Government.

With regard to the other scheme on the manufacture of Graphite and Graphite products in the State, the same was placed before the Graphites Sub-Committee for consideration. I send herein enclosed a copy of the minutes of the Sub-Committee expressing its views on the note of Mr.Narayana.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE.

Read :—

Government Order No.D.2908-11/I.& C.230-40-8 dated 23rd December 1940 sanctioning a grant of Rs.2,000/- to Mr. P. S. Narayan, B.A., B.Sc.(Min) etc., Consulting Engineer and Geologist, Malleswaram, Bangalore, under certain conditions, for conducting investigations on the preparation of abrasive products from Mysore minerals.

2) Letter dated 9th January 1941 from Mr. P. S. Narayana requesting modification of the conditions in the above order in certain respects to facilitate work.

OFFICE OF THE SECRETARY INDUSTRIES & COMMERCE BOARD
No. 187
Date 1/2/41
BANGALORE.

ORDER NO. D.3468-69/I.& C.230-40-16

BANGALORE, DATED 24TH JANUARY, 1941.

Mr. P. S. Narayana who has already done some work in investigations on the preparation of abrasives urges that in view of the large amount of experimental work involved he would be at a disadvantage if he should be held responsible for things burnt out, damaged or broken in the course of his investigations and that the machinery and equipment purchased under the order read above should be available for experiments in connection with other investigations which he is carrying on. He also urges that it would be difficult for him to account for erection charges and contingent expenditure continuously and has personally requested that he may be allowed an outright grant of Rs.500 for these purposes in addition to the grant sanctioned in the Government Order read above. This amount would be utilised by him for incidental expenditure and should not have to be accounted for.

Government consider that there is much force in the representation and are pleased to sanction the payment to Mr. P. S. Narayana of a sum of Rs.500/- as an outright grant for erection charges, contingencies and other incidental expenditure in connection with the investigations that he is conducting. The amount will be added to the amount of the additional grant to be asked for under the Government Order read above.

P. T. O.

The equipment to be purchased out of the grant of Rs. 2,000/- sanctioned in the Government Order read above may be used by Mr. P. S. Narayana for other investigations which he is carrying on. The equipment will be left with him for one year in the first instance.

Secretary to Government
Development Department

To

The Director of Geology in Mysore, Bangalore.

Comptroller to the Government of Mysore,
Through Financial Department.

Secretary, Industrial Research Committee.

Copy to Mr. P. S. Narayana

NDA.4

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

General and Revenue Secretariat.

No. D 3569 / Ire 230-40

Dated, Bangalore, 20 Jany. 1941.

FROM

The Secretary to the Government of His Highness the Maharaja of Mysore.
Development Department.

To

The Secretary,
Industrial Research Board,
Bangalore.

Subject:- Manufacture of Abrasives and Graphites etc., in the State.

Sir,

I am directed to invite reference to this office letter No.D.3039 dated 6th January 1941 on the above subject and to request you to kindly forward the views of the Committee in the matter immediately.

The file was sent to the Chairman on 30-1-41. Reply to Govt. has been issued on 31-1-41

1/2/41.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 188 Date 1/2/41

I have the honour to be,

Sir,

Your most obedient servant,

for Secretary to Government,
Development Department.

K.M.R.1.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHN THE MAHARAJA OF MYSORE.

Read :—

Government Order No.D.2908-11/I.& C.230-40-8 dated 23rd December 1940 sanctioning a grant of Rs.2,000/- to Mr. P. S. Narayan, B.A., B.Sc.(Min) etc., Consulting Engineer and Geologist, Malleswaram, Bangalore, under certain conditions, for conducting investigations on the preparation of abrasive products from Mysore minerals.

2) Letter dated 9th January 1941 from Mr. P. S. Narayana requesting modification of the conditions in the above order in certain respects to facilitate work.

ORDER NO. D.3468-69/I.& C.230-40-16

BANGALORE, DATED 24TH JANUARY, 1941.

Mr. P. S. Narayana who has already done some work in investigations on the preparation of abrasives urges that in view of the large amount of experimental work involved he would be at a disadvantage if he should be held responsible for things burnt out, damaged or broken in the course of his investigations and that the machinery and equipment purchased under the order read above should be available for experiments in connection with other investigations which he is carrying on. He also urges that it would be difficult for him to account for erection charges and contingent expenditure continuously and has personally requested that he may be allowed an outright grant of Rs.500 for these purposes in addition to the grant sanctioned in the Government Order read above. This amount would be utilised by him for incidental expenditure and should not have to be accounted for.

Government consider that there is much force in the representation and are pleased to sanction the payment to Mr. P. S. Narayana of a sum of Rs.500/- as an outright grant for erection charges, contingencies and other incidental expenditure in connection with the investigations that he is conducting. The amount will be added to the amount of the additional grant to be asked for under the Government Order read above.

P. T. O.

The equipment to be purchased out of the grant of Rs. 2,000/- sanctioned in the Government Order read above may be used by Mr. P. S. Narayana for other investigations which he is carrying on. The equipment will be left with him for one year in the first instance.

Secretary to Government
Development Department

To

The Director of Geology in Mysore, Bangalore.

" Comptroller to the Government of Mysore, Through Financial Department.

" Secretary, Industrial Research Committee. Bangalore

Copy to Mr. P. S. Narayana.

Memo No. G. 1667 dated 1-2-41.

Forwarded, with compliments, to the Secretary, Industrial Research Committee, Bangalore.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 194
Date 2/2/41
BANGALORE.

NDA. 4

BR Ramarao
Director,
Mysore Geological Department.

immediate action to grow the herbs and other essential oil bearing plants including patchouli and geranium as recommended by the sub-committee in their report placed for discussion, and the departments might also be requested to arrange if possible for the cultivation of these plants in an experimental plot at Balehonnur and Kemmangundi.

The Chairman also desired that Mr. S. G. Sastry, might be requested to publish a phamphlet *re*: Geranium containing full information with regard to its importance, etc., for being circulated and given publicity in the State.

The Chairman desired to know the progress with regard to Vitivert cultivation and called for a report.

(11) Production of Cinchona.

The report of the Chief Conservator of Forests and also that of Dr. M. N. Ramaswamy, Forest Research Chemist were placed before the House and recorded.

(12) Sulphur.

The report of the Director of Geology in Mysore was recorded.

(13) Manufacture of Urea.

PERSONNEL

(1) The Government Director of Industrial Concerns (Member and Convenor).
(2) The Director of Sandalwood Oil Factory.
(3) Dr. J. C. Ghosh, D.Sc. F.N.I. Director, Indian Institute of Science.
(4) Dr. V. Subrahmanyan, D.Sc., F.I.C., Indian Institute of Science, Bangalore.
(5) Dr. B. T. Narayanan, Agricultural Chemist.

The Chairman stated that a separate sub-committee was recently constituted to examine the possibilities of the manufacture of Urea.

The Director of Sandalwood Oil Factory explained the importance of Urea specially in plastics industry. He was of the opinion that a whole time chemist should be appointed to conduct experiments. It was pointed out that experiments had already been conducted at the Indian Institute of Science for conversion of compressed Ammonia into Urea and that Dr. Ghosh, Director of the Institute, would be glad to place the results before the committee subject to the conditions that might be laid down by the Government of India. The Chairman remarked that it was unnecessary to duplicate the work since the results of experiments at the Indian Institute of Science might be made available and the appointment of a whole time chemist was therefore not necessary. He, however, suggested that any-one of the chemists either at Belagola or at Bhadravati might be given facilities for experiments.

MISCELLANEOUS.

Utilisation of Molasses for the recovery of potash salts.

The reply received from the Secretary, Mysore Sugar Company, Ltd., was read. The Chairman observed that the question might be actively pursued and the Sugar Company requested to expedite their views in the matter.

The following subjects on the agenda were deferred for consideration at the next meeting for want of time.

(1) Compilation of information re: Industrial Researches in the State.
(2) Scope and Functions of the Research Board.
(3) Consideration of subjects proposed by:
  (*a*) Government Director, Industrial Concerns—Manufacture of glass bulbs, silk worm gut, etc.
  (*b*) Director of Industries and Commerce,—Suggesting that certain items of researches taken up by the Government of India may also be taken up here.
  (*c*) General Manager, Government Electric Factory.—Utilisation of steel shavings.
  (*d*) Manager, Mysore Spun Silk Mills, Ltd, Channapatna—Manufacture of bobbins, shuttles, etc., etc.,
  (*e*) Dr. A. V. Varadarajaiengar, B.A., D.Sc., A.I.E. Indian Institute of Science—Manufacture, of starch from sweet potato.

The Chairman thanked the members for their useful suggestions and the meeting terminated.

K. PARTHASARATHI,
Secretary.

N. MADHAVA RAU.
Chairman.

WD 1803—GPB—100—21-4-41.

The brief review of work done by the sub-committee was read out and the proceedings of the sub-committee were recorded. The scheme submitted by Mr. P. S. Narayana, Consulting Industrial Geologist, on the manufacture of Graphite products in the State (forwarded by Government) had been considered by the sub-committee which was of opinion that the scheme was superficial, wanting in details. The Board accepted the opinion of the sub-committee.

The Chairman, Mysore Iron and Steel Works, gave a brief account of the experiments conducted at Bhadravati re: Graphite Electrodes and said that the results of experiments were very encouraging. After discussion, the following resolutions were adopted :—

(1) that the experiments on Graphite Electrodes etc., at Bhadravati should be continued expeditiously.

(2) that the facilities required to continue the experiments might be given to the Officers of the Mysore Iron & Steel Works at the Government Electric Factory.

(6) Manufacture of Plastics.

PERSONNEL.

(1) Mr. V. Rama Rau, B. Sc., Government Electric Factory. (Convenor),

(2) Mr. Mohamadali, B.Sc., Mysore Iron & Steel Works.

(3) Mr. V. Paul, M.Sc., Mysore Iron & Steel Works.

(4) Mr. M. Srinivasaiya, B.A., F.I.I.Sc., Indian Institute of Science.

(5) Mr. S. G. Sastry, B.A., M.Sc. (Lond.), Director of Sandalwood Oil Factory.

The Chairman, Mysore Iron & Steel Works, gave a brief account of the work done at Bhadravati so for. He informed the members that the formaldehyde plant had since been erected, and the production of powder in the pilot plant was about 50 lbs. a day for the present.

The mouldings taken out from phenol formaldehyde powder recently manufactured at Bhadravati were then examined, and they were found to be satisfactory. The Chairman pointed out that phenol powders might be first perfected before taking up other compositions, and that the sub-committee should actively and promptly pursue the matter and also keep in touch with the experiments conducted at Bhadravati.

The question of the manufacture of plastics with shellac base was also considered. The Director, Sandalwood Oil Factory, explained that the scheme was not one of economic importance to the State, as quantities of raw materials such as Lac, wood-flour, etc., were not available locally. It was resolved to drop the subject.

(7) Manufacture of Potassium Permanganate.

PERSONNEL

(1) The Director of Geology (Member and Convenor).

(2) The Director of Sandalwood Oil Factory.

(3) The Government Director, Industrial Concerns.

(4) Dr. K. R. Krishnaswamy, B. A., D. Sc., F. I. C., Indian Institute of Science.

The report of Mr. L. S. Chandrakanta, Research Scholar of the Mysore Geological Department and the proceedings of the Committee were recorded. The Director, Sandalwood Oil Factory, stated that the Research Scholar had tackled the subject very well and the very approach of the subject was novel and instructive. The work of the Research Scholar was noted with satisfaction. The recommendation of the Committee to refer the scheme to the Government Bichromate Factory to take it up as an extension of work at a suitable opportunity was approved.

(8) Manufacture of Cement Asbestos.

PERSONNEL.

(1) Mr. B. Rama Rau, M.A., D.I.C., F.G.S., Director of Geology (Convenor).

(2) Mr. S. G. Sastry, B.A., M.Sc. (Lond.), Director of Sandalwood Oil Factory.

(3) Mr. M. K. Narasimhan, B.A., Cement Factory.

The brief review of work done by the sub-committee was read out and the proceedings of the sub-committee were recorded. The scheme submitted by Mr. P. S. Narayana, Consulting Industrial Geologist, on the manufacture of Graphite products in the State (forwarded by Government) had been considered by the sub-committee which was of opinion that the scheme was superficial, wanting in details. The Board accepted the opinion of the sub-committee.

The Chairman, Mysore Iron and Steel Works, gave a brief account of the experiments conducted at Bhadravati re: Graphite Electrodes and said that the results of experiments were very encouraging. After discussion, the following resolutions were adopted :—

(1) that the experiments on Graphite Electrodes etc., at Bhadravati should be continued expeditiously.

(2) that the facilities required to continue the experiments might be given to the Officers of the Mysore Iron & Steel Works at the Government Electric Factory.

(6) Manufacture of Plastics.

PERSONNEL.

(1) Mr. V. Rama Rau, B. Sc., Government Electric Factory. (Convenor),
(2) Mr. Mohamadali, B.Sc., Mysore Iron & Steel Works.
(3) Mr. V. Paul, M.Sc., Mysore Iron & Steel Works.
(4) Mr. M. Srinivasaiya, B.A., F.I.I.Sc., Indian Institute of Science.
(5) Mr. S. G. Sastry, B.A., M.Sc. (Lond.), Director of Sandalwood Oil Factory.

The Chairman, Mysore Iron & Steel Works, gave a brief account of the work done at Bhadravati so for. He informed the members that the formaldehyde plant had since been erected, and the production of powder in the pilot plant was about 50 lbs. a day for the present.

The mouldings taken out from phenol formaldehyde powder recently manufactured at Bhadravati were then examined, and they were found to be satisfactory. The Chairman pointed out that phenol powders might be first perfected before taking up other compositions, and that the sub-committee should actively and promptly pursue the matter and also keep in touch with the experiments conducted at Bhadravati.

The question of the manufacture of plastics with shellac base was also considered. The Director, Sandalwood Oil Factory, explained that the scheme was not one of economic importance to the State, as quantities of raw materials such as Lac, wood-flour, etc., were not available locally. It was resolved to drop the subject.

(7) Manufacture of Potassium Permanganate.

PERSONNEL

(1) The Director of Geology (Member and Convenor).
(2) The Director of Sandalwood Oil Factory.
(3) The Government Director, Industrial Concerns.
(4) Dr. K. R. Krishnaswamy, B. A., D. Sc., F. I. C., Indian Institute of Science.

The report of Mr. L. S. Chandrakanta, Research Scholar of the Mysore Geological Department and the proceedings of the Committee were recorded. The Director, Sandalwood Oil Factory, stated that the Research Scholar had tackled the subject very well and the very approach of the subject was novel and instructive. The work of the Research Scholar was noted with satisfaction. The recommendation of the Committee to refer the scheme to the Government Bichromate Factory to take it up as an extension of work at a suitable opportunity was approved.

(8) Manufacture of Cement Asbestos.

PERSONNEL.

(1) Mr. B. Rama Rau, M.A., D.I.C., F.G.S., Director of Geology (Convenor).
(2) Mr. S. G. Sastry, B.A., M.Sc. (Lond.), Director of Sandalwood Oil Factory.
(3) Mr. M. K. Narasimhan, B.A., Cement Factory.

The Director of Sandalwood Oil Factory stated that he was taking action to dipsose of the existing stock of asbestos. The Chairman enquired if there was any scope for the manufacture of Boiler composition from asbestos and whether it would not thrive as small scale industry. The subject was discussed in detail. The question of adequate supplies of raw material—asbestos—came up and the Secretary invited the attention of the Board to the Administration Report of the Mysore Geological Department for the year 1938-39 where it was stated that in Idegondanahalli area, Hole-Narasipur taluk, 8,000 tons of asbestos had been located. It was considered desirable and necessary to utilise the raw material locally available to the best advantage.

The Chairman, Mysore Iron & Steel Works brought to the notice of the Board that the possibilities of manufacturing asbestos pipes might be examined, in view of the demand for military and other works.

It was finally resolved to request the sub-committee to examine the question of manufacture of Asbestos Boiler composition and also that of manufacture of asbestos cement pipes and favour the Board with its views.

(9) Manufacture of Abrasives.

PERSONNEL.

(1) The Director of Geology, (Member and Convenor).
(2) Dr. J. C. Ghosh, Director, Indian Institute of Science.
(3) Mr. P. S. Narayana, Cunsulting Industrial Geologist.
(4) The Government Director, Industrial Concerns.

Proceedings of the sub-committee and Government Orders No. D. 2908-11—I. & C. 230-40-8 dated 23rd December 1940 and No. D. 3468-69—I. & C. 230-40-16 dated 24th January 1941 sanctioning Rs. 2,000 and Rs. 500, respectively to Mr. P. S. Narayana, Consulting Industrial Geologist, on the recommendations of the Board, were read and recorded. The Director of Industries and Commerce pointed out that samples of abrasive articles prepared by Mr. Narayana were not satisfactory. The Chairman observed that the Director of Geology was in direct touch with Mr. Narayana and will report further on the progress of the investigations.

(10) Manufacture of Chemicals, Drugs and Essential Oils.

PERSONNEL.

(1) *Sastravaidyapravina* Dr. S. Subba Rao, B.A., M.B.C.M., L.R.C.P., D.P.H., (Chairman).
(2) Dr. B. T. Narayana, Agricultural Chemist.
(3) Mr. B. H. Krishna, Industrial and Testing Laboratory.
(4) Dr. B. L. Manjunath, Central College.
(5) Dr. P. C. Guha, Indian Institute of Science.
(6) Dr. L. S. Doraswami, Economic Botanist.
(7) Mr. M. S. Krishna Rao, Government Soap Factory.
(8) Dr. M. N. Ramaswamy, Forest Research Laboratory.
(9) Mr. B. Sanjeeva Rao, Indian Institute of Science.
(10) Mr. V. Venkatachar, Assistant Director of Industries and Commerce, (Secretary).

The report of the sub-committee was recorded. The Chairman remarked that the subject was a very important one and that necessary immediate action on the resolutions of the sub-committee might be taken and pursued.

The Director of Sandalwood Oil Factory said that Mr. Sundara Rao of Mysore—a gentleman with experience in the cultivation of essential oil plants—whom he consulted, was of opinion that the land of the Sandalwood Oil Factory at Mysore was not good for geranium cultivation. He also mentioned that Mr. B. V. Pandit of Nanjangud himself a large consumer of geranium oil, had imported cuttings from Yercaud and planted them at Nanjangud. At this stage the subject proposed by the Superintendent, Government Soap Factory, re: cultivation of patchouli and geranium in the factory (subject No. IV (E)) was also considered. The Chairman pointed out that the Forest and Agricultural Departments who are placed in a better position might be asked to take necessary

Manufacture of Super-phosphates

PERSONNEL

(1) Dr. J. C. Ghosh, D.SC., F.N.I., Director of Indian Institute of Science, Bangalore. (CONVENOR)

(2) Mr. S. G. Sastry, B.A., M.SC., (Lond.), Director, Sandalwood Oil Factory, Mysore.

(3) Dr. K. R. Krishnaswamy, B.A.,D.Sc., (Lond.), F.I.C., Indian Institute of Science, Bangalore.

(4) Mr. E. V. Ganapati Iyer, B.Sc., Government Director of Industrial Concerns, Bangalore.

The proceedings forwarded by Dr. Ghosh, Convenor of this sub-committee, were read and recorded. The Director, Sandalwood Oil Factory, explained the work done by the sub-committee so far. It was resolved that further action might be taken in light of the sub-committee's report.

After general discussions, the chairman suggested that the Managing Director, Mysore Chemicals & Fertilisers, Ltd., might be asked to ascertain any reduction in the freight for the transport of bones from Goribidnur, Bangalore and other important outlying stations to Belagola would be helpful and what traffic could be promised.

(2) Manufacture of Hydrated Lime.

PERSONNEL.

(1) Mr. B. Rama Rau, M.A., D.I.C., Director of Geology in Mysore, (Convenor).

(2) Dr. H. S. Sharma, Ph.D. (Lond.), D.I.C. (Lond)., Chemist, Mysore Paper Mills, Ltd.

(3) Mr. V. Balakrishna, B.A., General Manager, Mysore Paper Mills, Ltd.

(4) Mr. G. Gundu Rao, M.Sc., A.I.I.Sc., Mysore Sugar Company, Ltd.

(5) Mr. M. M. Ganapati, Superintendent, Chemical Plant, Mysore Iron & Steel Works.

The Director of Industries and Commerce stated that the experimental batch of hydrated lime from kankary limestone was found by the Mysore Sugar Company to be as good as the imported variety.

The Chairman remarked that the Director of Geology might be requested to forward a detailed up-to-date report on the investigations *re* hydrated lime. It was also decided that the experiments should be continued at Bhadravati till definite results were obtained.

(3) Manufacture of Magnesite Bricks.

It was decided that as resolved in the last Board meeting further experiments might be conducted at the Porcelain Factory, when the tunnel kiln was ready and the Government Director, Industrial Concerns, be requested to take necessary action in the matter and send his report.

(4) Manufacture of Caustic Soda.

PERSONNEL.

(1) Mr. E. V. Ganapati Iyer, B.Sc., Government Director of Industrial Concerns, (Convenor)

(2) Mr. S. G. Sastry, B.A., M.Sc., (Lond.), Director of Sandalwood Oil Factory.

(3) Dr. B. K. Ram Prasad, M.A., (Hon.), D.Sc., M.I.E., Government Electrical Department.

(4) Dr. K. R. Krishnaswamy, B.A., D.Sc., F.I.C., Indian Institute of Science.

(5) Mr. B. Rama Rau, M.A., D.I.C., F.G.S., Director of Geology in Mysore.

The proceedings of the sub-committee were recorded. It was noted that the sub-committee had requested Dr. Krishnaswamy to draw up a scheme in consultation with Mr. S. G. Sastry, for the consideration of the sub-committee. It was decided to await the further report of the sub-committee.

(5) Manufacture of Graphite Electrodes and other Products.

PERSONNEL.

(1) Mr. D. V. Krishna Rao, B.A., Mysore Iron and Steel Works, (Convenor).

(2) Dr. B. K. Ram Prasad, M.A. (Hon.), D.Sc., M.I.E., Government Electrical Department.

(3) One Chemist from the Mysore Paper Mills, Ltd.

(4) One from the Indian Institute of Science.

Confidential

INDUSTRIAL RESEARCH BOARD

Proceedings of the Second Meeting of the Industrial Research Board Sub-Committee, held on Saturday the 15th March 1941 at 1 p.m. at the Chambers of the First Member of Council.

PRESENT

Rajamantrapravina N. Madhava Rau, Esq., B.A.,B.L.,
First Member of Council. (*Chairman*).

MEMBERS

1. Mr. M. Venkatanaranappa, B.A.,
   Chairman, Mysore Iron & Steel Works, etc., Bangalore.
2. Mr. S. G. Sastry, B.A., M.SC., (Lond.),
   Director, Sandalwood Oil Factory, Mysore.
3. Mr. B. G. Appadurai Mudaliar, B.A.,B.SC.,A.M.I.,Mech. E.,
   Director of Industries & Commerce in Mysore, Bangalore.

Mr. K. Parthasarathi, B.A.,
General Manager, Government Electric Factory, Bangalore.
(*Secretary*).

ATTENDED BY INVITATION

1. Mr. M. Venkatesa Iyengar, M.A.,
   Secretary to the Government of Mysore,
   Development Department, Bangalore.

ABSENT

1. Mr. E. V. Ganapati Iyer, B.SC.,
   Government Director of Industrial Concerns, Bangalore.

AGENDA

1. Brief review of work done by various sub-committees.
2. Compilation of information *re* Industrial Researches in the State.
3. Scope and Functions of the Research Board.
4. Consideration of subjects proposed by:—

(*a*) Government Director of Industrial Concerns—Manufacture of glass bulbs, silk worm guts, etc.

(*b*) Director of Industries & Commerce—suggesting that certain items of researches taken up by the Government of India may also be taken up here.

(*c*) General Manager, Government Electric Factory—Utilisation of steel shavings.

(*d*) Manager, Mysore Spun Silk Mills, Ltd., Channapatna—Manufacture of bobbins, shuttles, etc.

(*e*) Superintendent, Government Soap Factory—Cultivation of patchouli and geranium in the factory nursery.

(*f*) Dr. A. V. Var adarajaiengar, B.A., D.SC., A.I.C., Indian Institute of Science—Manufacture of starch from sweet potato.

5. Any other Subjects.

GENERAL

The Chairman invited reference to the agenda circulated to members and said that the review of work done by the several sub-committees may be taken up for consideration.

NOTE.

Subject Sub Committee - Meetings

File No. of 19 .

It is seen that the date of the meetings of the several Sub Committees are not regularly intimated by the respective Convenors. It is very necessary that the Board should be kept aware of the developments, actual dates of meeting &c.

If approved, the Convenors of all the Sub Committees, will be requested to intimate the meeting date & to promptly forward the proceedings.

Submitted for orders.

10/3/41

Yes. 14/3

Draft letter to Convenors put up for approval

20/3

WD 01345—GPB—750—7-1-41

Draft for approval.

To

All the Convenors of Sub-Committees.

Sir,

I am directed to inform you that the date of the Sub-Committee meetings are not intimated by some of the Convenors. I am therefore desired to request you to be so good as to arrange to keep the Board informed of the engagements of the Sub-Committees as and when the meetings are convened.

I have etc.

Secretary.

Government of Mysore.

Industrial Research Board.

No. 545/13/40-41 Bangalore, Dated, 27th March 1941.

From

K. Parthasarathi, Esq., B.A.,
Secretary, Industrial Research Board,
Mysore Road, Bangalore.

To

Sir,

Subject: Sub-Committee - Meetings.

I am directed to ~~ifnre~~ inform you that the date of the Sub-Committee meetings are not intimated by some of the Convenors. I am therefore desired to request you to be so good as to keep the Board informed of the engagements of the Sub-Committees as and when the meetings areconvened.

I have the honor to be,
Sir,
Your most obedient servant,

Parthasarathi

SECRETARY.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

Read :—

Government Order No.D.2908-11/I.& C.230-40-8 dated 23rd December 1940 sanctioning a grant of Rs.2,000/- to Mr. P. S. Narayan, B.A., B.Sc.,(Edin) etc, Consulting Engineer and Geologist, Malleswaram, Bangalore City for conducting investigations on the preparation of abrasive products from the Mysore Minerals.

2) Government Order No.D.3468-69/I.& C.230-40-16 dated 24th January 1941 sanctioning the payment to Mr. P. S. Narayana of a sum of Rs.500/- in addition to a sum of Rs.2,000/- sanctioned in the Government Order read above, as an outright grant for erection charges, contingencies and other incidental expenditure in connection with the investigations that he is conducting.

3) Letter No.492/I.A.D. dated 21st January 1941 from the Comptroller enquiring the particular head of account under which the above additional grant is sanctioned.

4) Un-official Memo No.9774-53 dated 10th March 1941 from the Director of Geology stating that it is not possible to meet the expenditure from the sanctioned grants of his Department in the current year's budget and that, if this amount has to be met by his Department the grant under the Mineral Survey for the current year may be enhanced by Rs.2,500/-.

ORDER NO. D 4940-42/I&C 230-40-18

BANGALORE, DATED 1 MARCH, 1941.

Government are pleased to direct that the expenditure be met from the Industrial Development Fund.

Sec. 31/3/41

Secretary to Government
Development Department

4/4

To

The Director of Geology in Mysore, Bangalore.

" ~~Director of Industries and Commerce in Mysore.~~ Secretary Industries Reserve Bank committee

" Comptroller to the Government of Mysore, through the Financial Secretariat.

MDA.7

604/40-1

22nd April 1

B. Rama Rau, Esq., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

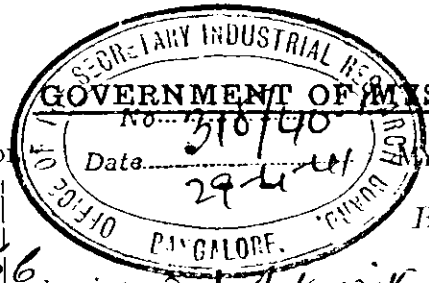
Sub: Abrasives - Investigations.

In inviting a kind reference to your letter No. 9774-43 dated 23rd January 1941, on the subject, I am directed to request you to be so good as to intimate the progress made by Mr.Narayana, in his investigations on Abrasives.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

HSR)



GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL"

MYSORE GEOLOGICAL DEPARTMENT

In all communications please quote our reference

No. 9774-66.

Bangalore, 26th April 1941.

Acknowledged / Ack with Thanks,
2) Put up a note for Submission to Chairman
29/4/41.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
29/4
Bangalore.

TO

The Secretary,
Industrial Research Board,
Bangalore.

Dear SIR,

With reference to your letter No.604/40-1 dated 22nd April 1941 requesting me to furnish a note on the progress made by Mr. P.S. Narayana in the investigation he has undertaken regarding the preparation of abrasive products from Mysore Minerals, I desire to say that Mr. Narayana had been touring about from the third week of March in Northern India and returned to Bangalore on the 19th instant. Subsequent to his return I had visited again his laboratory and found that he has so far prepared sheets of abrasive papers of different grades of fineness - ~~the~~ standard sizes - using staurolite, tourmaline, grey corundum, pink corundum and powdered glass, the specimens of the first three being supplied by this Department. Excepting tourmaline papers, all the rest seem to compare favourably with imported abrasive papers, and Mr. Narayana assures me that tourmaline papers as prepared have also been reported to be quite good. He has prepared 5 corundum wheels, varying from about 3 to 5 inches in diameter from the grey corundum

P.T.O.

supplied and they seem to be fairly good. They need testing, however, and Mr. Narayana told me that he would be taking them for purposes of the required testing.

His detailed note on the number and varieties of articles prepared so far and the results of their regular testing has been called for and a copy of his note will be forwarded to you as soon as it is received here.

Yours faithfully,

D Rama Rao

D I R E C T O R ,
Mysore Geological Department.

GOVERNMENT OF MYSORE.

Telegrai _ : Address :—"GEOL."

In all communications please quote our reference

No. 9774-67/Cons. 2

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 29th April 41.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,

Director of Geology in Mysore,

Bangalore.

TO

The Secretary,
Industrial Research Board,
Bangalore.

DEAR SIR,

In continuation of this office letter No.9774-66 dated 26th April 1941, I am sending herewith for your information a copy of the Note since received from Mr. P.S. Narayana on the progress made by him in the investigation regarding the preparation of abrasive products from Mysore Minerals.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE. No. Date 2/5/41

Yours faithfully,

B Rama Rao

DIRECTOR,
Mysore Geological Department.

Ar.29/4

Acknowledged 2/5/41

A Brief Note

(by Mr. P. S. Narayana)

I have on hand nearly a gross of paper and cloth of grades 0, 1, 1½, 2, 2½, 3, (B.S.S.871 & 410, & I.&.M.1553, 1554).

Since intimating to the Government last a definite improvement has been effected in all types of work undertaken in connection with the Abrasives manufacture in Mysore State started under the auspices of the Mysore Board of Industrial Research and work carried on in the undersigned's Laboratory.

The Paper and Cloth have been prepared according to the I.&.M. and B.S.S. in different grades, using the following material - Grey and Ruby Corundum, Staurolite, Emery, Tourmaline, Glass and Sand (Special) and have been tested in the Central Industrial Workshop, a copy of whose latest report has been appended.

Attempts have been made to improve the bond and bearing qualities of the Abrasive wheels using Grey and Ruby Corundum with the co-operation of the Porcelain Factory, and these have also been sent to the Central Industrial Workshop for test and the opinion thereon has also been mentioned in the above report.

All the important Abrasives industries in India have been visited by the undersigned with a view to study the present trends and their future programmes so as to effect all possible alterations suited to local conditions for a satisfactory and efficient working of a stable Abrasives industry in the State. There is not a single factory that has commercialised so far the manufacture of Grinding Wheels in India, although there are several of them with such programmes.

Attempts are being made to prepare metallic abrasives in chilled Cast Iron and Steel. Besides, Lead alloy wheels required in the Printing Industry are receiving attention.

Arrangements are afoot for harnessing all possible sources of Raw materials in Mysore State as it is in the considered

considered opinion of the undersigned that the industry might now very well be put on a manufacturing scale.

The undersigned is in close touch with the Government of India Testing Laboratories as well as their Ordinance Departments for establishment of quality standards.

For finer abrasives suitable bonds and vehicles have been fixed and the production of these will be an auxiliary to the major industry.

The undersigned requests the Government to treat the abrasive materials, viz., Grey and Ruby Corundum, Tourmaline, Staurolite, Kyanite and Bauxite, etc., as Government reserves so as to ensure a steady supply and also conservation of resources as there is a very heavy demand for the same in the country and the value of the materials is rising.

The undersigned acknowledges with grateful thanks the continued interest of the Government, and the co-operation extended by the Government Director of Industrial Concerns, Director of Geology, Director of Industries and Commerce, Principal of the Engineering College, and Superintendents of the Central Industrial Workshop and the Porcelain Factory.

(Sd) P. S. Narayana,
Consulting Engineer and Geologist.

Bangalore,
Dated: 26-4-41.

"COPY"

B.R.Ramadas

DIRECTOR,
Mysore Geological Department.

Ar.29/4

(Government of Mysore)

The Central Industrial Workshop.

(Department of Industries & Commerce)

Ref.No.520. Bangalore, 25th April '41.

To

The Director of Industries &
Commerce in Mysore,
Bangalore.

Sir,

Mr. P.S. Narayana, Consulting Engineer and Geologist, has submitted for inspection and test certain fresh samples of abrasive paper, cloth and wheels in different grades.

The quality of the abrasive paper and cloth has been very much improved and the material appears in no way inferior to the foreign imported stuff.

The abrasive wheels were also put to the test and there has been a definite improvement in the bonding etc., but further work is necessary in improving the bond and the selection of different qualities suitable to special classes of work. The equipment for proper trial of these wheels is being made in the Workshop.

I have the honour to be,
Sir,
Your most obedient servant,

(sd) A.V. Raghavachar,
SUPERINTENDENT.

Copy forwarded to the Director of Geology for information.

(Itd) P.S.N. 26-4-41.

"COPY"

B Ramadas

DIRECTOR,
Mysore Geological Department.

Ar.29/4

Do 626/401

2nd May 1

Dear Mr. Rama Rau,

I have your letter Nos. 9774-66 of the 26th and 29th ultimo with regard to the investigations by Mr. P.S. Narayana about the manufacture of abrasive papers. Many thanks. I also happened to visit his laboratory on the 28th April 1941 and found that the quality of abrasive papers and corundum wheels ~~are~~ is fairly good.

Mr. Narayana assured me that there was nothing more to be done with regard to the abrasive papers and the next step was only the exploitation of results. He also told me that he could easily take up the manufacture of 8-10 gross of papers a day with very little difficulty.

I have suggested to Mr. Narayana to give me a short note on the manufacture of these abrasive papers on a semi-commercial scale with an initial output of 8-10 gross per day, working out in detail the cost involved and the probable returns of the output and the amount required as working capital for a period of three months. By gauging the results of this pilot plant operations, we can consider the advisability of taking up the manufacture of these papers on a large scale.

Soon after I receive the note from Mr. Narayana, I shall write to you again.

Yours sincerely,

K

B. Rama Rau, Esq., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

Subject to test
sand

The papers given on list are found to be half a good as Davis (Caidon) brand papers. The latter is almost the finest quality obtainable in the market.

It is suggested that Coating may be more uniform and that background papers a little more absorptive than Davis papers.

S.O.

RBD 3/5

3/5

Submitted to the General Manager:

Re the grinding wheel sent for test.

The wheel is not dressed on the sides and perfectly trued. The periphery or the edge must be trued so that the wheel is perfectly round. In truing the wheel it should be brought to Standard dimensions. It is $2\frac{3}{4}$" in diameter which is not Standard.

The wheel was subjected to speed test. For ordinary grinding purposes the wheels are recommended to operate at a speed from 5000 to 6000 surface feet per minute ie for a wheel of 3" dia. the speed adopted is from 6300 to 7600 rpm. And in speed test the wheels are revolved with a a safety factor of atleast $2\frac{1}{2}$. Thus a wheel of 3" dia. must Stand atleast a speed of 12,500 to 19,000 rpm. But the wheel, when it was put to test, gave way immediately at 2000 rpm This is probably due to very weak bonding The wheels are speeded far in excess of normal operating rate to find their freedom from flaws, fractures and similar defects.

The grains must be finer and the cementing much stronger to withstand the large Centrifugal stresses developed at such speeds.

The abrasive quality of the wheel could not be tested as it gave way before coming to appreciable speed—

KRR
3/5/41.

No. 641 for 1

8th May 1

P.S. Narayana, Esq., B.A., B.Sc., etc.,
Consulting Industrial Geologist,
41, East Park Road, Malleswaram,
Bangalore.

xxxx

Dear Sir,

The three sheets of abrasive papers and corundum wheel given to me for trial, were tested in the Government Electric Fac ory. It is reported that the abrasive papers are found to be half as good as "Davis" brand papers the finest quality available in the market. It is also suggested that the coating may be more uniform and that the background paper a little more strong.

The corundum wheel was subjected to speed test. For ordinary grinding purposes the wheels are recommended to operate at a speed from 5,000 to 6,000 surface feet per minute i.e. for a wheel of 3" dia the speed adopted is from 6,300 to 7,600 r.p.m. The wheel when it was put to test, gave way immediately at 2,000 r.p.m. It is reported that this is probably due to weak bonding. It is also observed that the grains must be finer and the cementing much strong-er to withstand the large centrifugal stresses developed at such speeds. The wheels is also reported to be not properly dressed on the sides and perfectly trued.

I believe the abov. observations will be helpful to you to stadardize the products.

Yours faithfully,

sd/-

SECRETARY.

HSR) No. 42/40-41

Copy of the above with compliments to the Director of Geology in Mysore, Bangalore for favour of information.

Secretary.

NOTE.

Subject Abrasive Sheets & Corundum Wheel

File No. of 19 .

Subd

Three Sheets of abrasive papers and a Corundum Wheel were given by Mr. Narayana for ~~test~~ trial in the G.E.F. These have since been tried by the G.E.F & a note on the observations have been received from the Factory

If agd Copies of these Reports will be forwarded to Mr. P. S. Narayana & to the Dr. of Geology for needful action & report.

Jh 6/5/41 Jy

Secy)

Draft letter put up

Jh 8/5/41 Secy)

D.O.666/401

23rd May 1

Dear Mr. Narayana,

During my visit to your laboratory on the 28th April, You promised to send me a detailed note on the manufacture of Abrasive papers on a semi-commercial scale with an initial out put of 8-10 gross a day. I have not received this note so far. May I request you kindly to let me knew when I can have this note?

Yours sincerely,

P.S. Narayana, Esq., B.A., B.Sc., etc.,
Consulting Industrial Engineer and
Geologist, 41, East Park Road,
P.O. Malleswaram.

HSR)

Telegrams "CONSUPRAS." *Telephone :* 4513.

GOVERNMENT OF INDIA

DEPARTMENT OF SUPPLY.

Controller of Supplies,
South India Circle.

United India Life Building,

9731-2 *Madras, dated* 20th June 1941.

Messrs. Industrial Research Committee,
Mysore State. Bangalore.

Gentlemen,

I am forwarding by separate registered post samples of (1) Sillimanite and (2) Garnet sent to this office by Messrs. Travancore Minerals Co.Ltd., Quilon, for your inspection.

Could you kindly let me have your views as to how far these minerals could be used in the manufacture of abrasive paper?

Yours faithfully,

For Controller of Supplies,
South India Circle,
Madras.

Await Samples
23/6

Samples forwarded to Dr. Gaitonde on 30/6/41

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE.
No. 361
Date 23/6/41

(Board of Industrial Planning and Coordination.)

761/40-1

27th June 1

The Controller of Supplies,
South India Circle, United India
Life Buildings, Madras.

I am directed to acknowledge the receipt of your letter No.9731-2 dated 20th June 1941 re: samples of Sillimanite and Garnet. The sample parcel mentioned in your letter was received just yesterday. I shall write to you in the matter again.

I have the honor to be,
Sir,
Your most obedient servant,

HSR) SECRETARY.

(Board of Industrial Planning and Coordination.)

771/ww

One letter with one packet.

30th June 1

The Director of Geology in Mysore,
and Convenor, Abrasives Sub-Committee,
Bangalore.

Sub: Manufacture of Abrasive paper - Minerals.

In enclosing herewith a copy of letter No.9731-2 dated 20th June 1941 received from the Controller of Supplies, South India Circle, Madras as also the sample packet of Sillimanite and Garnet forwarded by him, I am directed to request you to be so good as to have the minerals inspected and to kindly furnish your remarks as to how far these minerals could be used in the manufacture of abrasive papers.

I request the favour of an early action.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

HSR)

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference
No. 9774-80

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 2nd July 19 41.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE. CONG.
No. 3/4/-2
Date 3/7/41

Reminder
27/x/41

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dear SIR,

With reference to your letter No.771/40-41 dated 30th June 1941 forwarding a bag containing samples of powdered garnet and sillimanite and requesting me to furnish my opinion as to their suitability for manufacturing abrasive papers, I desire to say that the sample of garnet sent seems to be quite suitable. The sillimanite sample sent being in the powdered form cannot be readily identified whether it is really sillimanite or kyanite. In either case it is likely to be quite soft and hardly as good as garnet. Both these samples have been sent to Mr. P.S. Narayana, Consulting Geologist, Malleswaram, who has been conducting some investigations on abrasive products, for his experiments and trial. His report on the material when received will be sent to you.

1) Ack with Thanks Asked 3/7
2) Submit a note to the chairman.

Yours faithfully,

B Rama Rao

DIRECTOR,
Mysore Geological Department.

Ar.2/7

5/7

3/7/41.

(Board of Industrial Planning and Coordination)

137/41-2

1st Septr. 1

B. Rama Rau, Esq., M.A.,D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

I am directed to acknowledge with thanks the receipt of two sets of notes - re: investigations on Asbestos Cement sheets and pipes, and work done by Mr.Narayana on the manufacture of abrasive products forwarded with your letter Nos.G.599 and 18-5 dated 1st September 1941.

I am obliged for the prompt compliance.

I have the honor to be,
Sir,
Your most obedient servant,

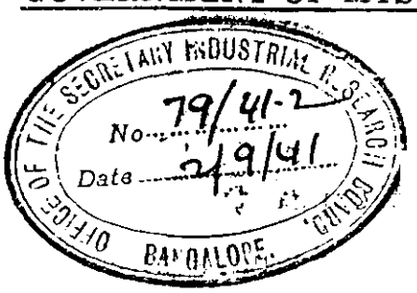
SECRETARY.

HSR)

GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference
No. 18-5



MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 1st Sept. 19 41.

Ack with thanks
1/9
3-30 p.m.
Note both
to Chairman
Separately.
Acked 1/9

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

TO

K. Parthasarathi, Esq., B.A.,
Secretary,
Industrial Research Board,
Bangalore.

SIR,

With reference to your D.O. letter No.108/41-2 dated 29th August 1941, requesting me to furnish you with a note on the work done by Mr. P. S. Narayana regarding the manufacture of abrasive products, I have the honour to state as follows :

The minerals occurring in nature, which are commonly used for abrasive products are Corundum, garnet, emery, quartz and a few others which show sufficient hardness. Staurolite and tourmaline, which come in hardness between quartz and garnet, do not seem to have been tried as yet for abrasive purposes and perhaps this is the first instance in which their use as abrasive has been taken up for investigation. Amongst these several minerals excepting true emery all the others are found, in Mysore, to varying extents.

From some of these minerals supplied by this Department, and others purchased in the market, Mr. Narayana had prepared, as a trial measure, some sample sheets of abrasive papers and these, as tested in the Indian Institute of Science, in the College of Engineering and in the Central Industrial Workshop, were reported to be fairly satisfactory. Based on the results of his investigations and on his study of the market conditions in South India for abrasive products, Mr. Narayana submitted in November 1940 a scheme estimated to cost about Rs.20,000/- for setting up a plant for the preparation of some abrasive products.

(P.T.O)

The Sub-Committee constituted to consider the possibility of manufacturing abrasive products in Mysore, after considering the results of the work done so far, resolved in one of its meetings that the investigations should be continued on a pilot plant scale; and on its recommendation the Government were pleased to grant, in December 1940, a sum of Rs.2,500/- to Mr. Narayana for purchasing the necessary equipment to continue the investigations. The machinery and equipment which he has purchased out of this grant, for the purpose of this investigation, are shown in the annexed statement.

Subsequent to this grant, Mr. Narayana has prepared abrasive sheets in standard sizes, grinding wheels and pastes.

(1) Abrasive sheets:- As a preliminary to prepare these sheets it is necessary to select the best available glue and standardise by experiments the correct temperature and viscosity at which it has to be used to give the best results. After a series of trials of different glues, he has found that the one prepared from the flushing of the fanneries is the most economical and quite suitable for the purpose. Using this glue at standardised conditions and the brand of paper supplied by the Dalmia Paper Mills, he has prepared abrasive papers in different grain size and in sheets of standard dimensions. A few months back he requested for the loan of the gumming machine which was in the Government Press, for purpose of rapid gluing of papers by mechanical means and its use is reported to have enabled him to prepare abrasive papers at the rate of one ream per shift of two hours. So far he has prepared 4-5 reams of abrasive papers in standard sizes. Samples of these are stated to have been sent to several concerns for purposes of their trial and with a view to canvass orders for such products. Whether this will result in any large orders for such abrasive sheets remains to be seen.

Among the abrasive sheets imported into India, garnet, emery and sand papers are largely used; but whether abrasive sheets prepared from staurolite and tourmaline will be favourably received in the market has yet to be found. It is believed that there is a fairly good demand for abrasive papers in India; but we have no reliable information as to the actual extent of such demand for each of these varieties of paper.

(2) Abrasive Wheels:- The preparation of abrasive wheels presents some problems and the difficulty consists in selecting a suitable type of bonding materials. Several materials have been tried by different investigators, with varying successes; and the wheels so prepared generally fall into 3 types. Mr. Narayana prepared one or two wheels from graded corundum powder using shellac as bonding material. This type of wheel would be suitable for purposes of lapidiary work and as there does not seem to be a large demand in India for it these wheels were not prepared further.

Subsequently, he tried preparing grinding wheels using corundum with a mixture of quartz, felspar and kaolin as bonding material. The few wheels prepared, using this bond, were found to be incapable of standing high speed revolutions and cracked badly when subjected to high speed tests. Another wheel has been prepared using sodium silicate and talc powder along with the ingredients of the ceramic bond noted above. The result of testing of this wheel is not yet received. Apart from determining the suitable bonding materials, there are several other processes which need a careful study before one could make good grinding wheels of the required standard. There seems to be a great demand for emery grinding wheels and consequently it is desirable to pursue this investigation till he succeeds in producing a suitable type of the required standard.

(3) Abrasive Pastes:- From some types of iron oxides, fine silica, and the fine powders of corundum etc., Mr. Narayana has prepared some pastes, for polishing, valve grinding, and similar purposes. The demand for such products is not, however, large.

Mr. Narayana has just furnished me with his detailed report regarding the results of his investigations, and I have not yet had time to study this carefully.

So far as the raw materials for abrasive products are concerned, staurolite and tourmaline are found in limited quantities in the Holanarsipur taluk and at the estimated requirements of about 30-40 tons per year, the material available here would suffice to feed a small plant for some 15 to 20 years. Corundum is found as loose crystals scattered in the cultivated fields in the southern parts of the Mysore District and the aggregate amount which could be collected from this source will not exceed a thousand tons. There are, however, some corundum bearing rocks near Koratagere (Tumkur Dist), Kalyadi (Hassan District) and Kyatanhalli (Mysore District) which could be mined for the extraction of the minerals but cost of extraction of corundum from such sources will run up to at least Rs.300/- per ton. These details will be discussed in a meeting of the Sub-Committee when taking up Mr. Narayana's final report into consideration.

I have the honour to be,
Sir,
Your most obedient servant,

B Rama Rao

D I R E C T O R,
Mysore Geological Department.

Points for consideration of the Board: -

(1) Whether it is necessary to continue further investigations

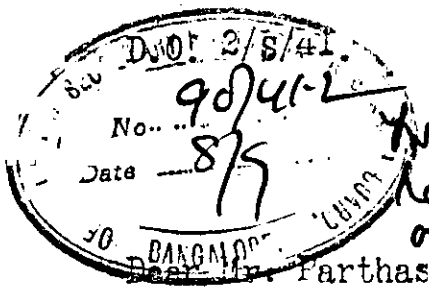
investigations on the preparation of the abrasive wheels of the standard types; and if so whether Mr. Narayana has to be asked to pursue with this work or whether the work has to be done by a Research Scholar, qualified in ceramics, under the instructions of the Director of Geology.

(2) Whether the results so far obtained are sufficient to setting up a plant for abrasive papers and cloth, in Mysore.

(3) If this industry is to be started, whether it is to be a Government concern, and if so under which Department.

P. S. NARAYAN,
CONSULTING ENGINEER & GEOLOGIST.

ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
"MINES HOUSE,"
MALLESWARAM P. O.,
BANGALORE.



Received at 8 am today.
Mr Ps. Narayana has personally called on me to deliver this today
5 5 41
5 5 41

Perused by Chairman V.C at the meeting
8/5/41

Dear Mr. Parthasarathy,

With reference to your letter No 700/40-1, dated 2nd. May 41, I am enclosing herewith the note referred to in the same.

The raw materials required per day are:

Abrasive minerals per day	Rs. 12/-	Establishment	
Glue	½ cwt. 20/-	4 part-time workers	7/-
Paper	½ cwt. 22/-	1 carpenter	4/-
Chemicals per day.	3/-	1 graduate asst.	40/-
Power & fuel	4/-	1 clerk	30/-
Packing	5/-	1 ceramic & Engg Graduate	75/-
Fats, waxes oils and Greases.	3/-	2 workmen	44/-
Filling and Backing materials.	1/-	Crushing Establishment	34/-
Running stores and repairs and Contingencies	3/-	Rs.20/- per day.	300

Laboratory allowances, contingencies and advertisement 30/- per day

Total 140/- per day excluding establishment on glue plant.

140

Grant made under 1940-41 revised budjet Rs. 2000/

Grant required under 41-42 revised budjet Rs.10,000/

Total Rs.12,000/

Working expenses for 6 months Rs.6000/

Sales realisation during the period of the above said 6 months expected at not less than Rs 9,000/ after making due allowance to the by-products realised.

Profit Rs.3000/ in 6 months accrued. P.T.O.

While the assured profits are only alittle over ten percent in the first three months , with the development of the grinding wheel & other by-products it is confidently expected that 40 to 45 percent profits would be available on this industry.

As this has a very great prospect I request you to be pleased to obtain for extending the investigations I am carrying on in my laboratory on semi-commercial lines afurther grant of Rs.20,000/-.

Incidentally, Iwish to inform you that I am carrying on research with a view to establish a graphite crucibles & lubricant industry as well as an asbestos rope and packing materials industry.

Yours Sincerely,

Nanjundaiya

K.Parthasarathy,ESq.,
Secretary ,
Board of IndustriallPlanning & Co-ordination
Govt.of Mysore,
B A N G A L O R E.

Brief Report.

Work Done In Connection With investigations Relating To the Manufacture of Abrasive Products From Mysore Minerals In The Engineering and Mineral Industrial Research Laboratory Of Mr P. S. Narayana. Bangalore.

It was on 24th January 1941 that Government were pleased to sanction a grant of 2,500 Rs, for contingencies, erection charges and for equipment and aparatus to be purchased through the Director of Geology for use in the undersigned's Laboratory, for continuing investigations on the preparation of abrasive products from Mysore mineral.

With reference to sub para 1 of para 3 of the preamble to the Government order No D.2700-11/I&C 200-40-0, 23rd Dec 1940 providing for the purchase of the necessary equipment and aparatus etc, the expenditure met with under the five items by the Director of Geology is as here-under.

Item.	Amount Provided.	Expenditure met with.
I.	Rs. 500	Rs. 468
II	" 1000	" 675-0-0
III.	" 200	" 50-0-0
IV.	" 100	" 20-0-0
V.	" 200	" 1-14-0
Total	Rs. 2000	Rs. 1466-12-0
	Balance	Rs. 533-4-0
	Grand Total	Rs. 2000-0-0

While Rs.1400-12-0 forms part of the sum of Rs.2,500 total grant made for the purpose of the investigations the above sum represents the amount used in purchasing equipment and aparatus required in my laboratory for establishing controls and checks in the preparation of the adhesive compositions, maintenance of standard grains sizes of the various abrasive minerals supplied and establishing the best durability factors by improving rapidity of action and maintaining uniformity of act as well as finish with each product made.

Further to the above expenditure from the the Government grant a sum of Rs.2500 was spent from the personal funds of the undersigned in purchase of additional equipments not provided for in the Government Grant making alterations in the existing laboratory and for training a number of young men and studying the position of the country since April 1941, with a view to establish the abrasive industry on sure and progressive lines.

Equipment to the tune of another 3000 Rs in connection with further improvements to be effected in the laboratory for development of this work has been ordered for

Equipment, covering the remaining grant from out of the sum of 2,500 after so far meeting the expenditure of Rs.1468-12-0 reffered above is under construction in the Central Industrial Workshops of the Government which is expected to be delivered shortly. The bills from the Industrial Workshop

covering to about Thousand and odd Rupees (the bills not as yet submitted) are proposed to be met by adjusting a sum of Rs.551-4-0 remaining out of Rs.2000 provided for the purchase of equipment vide page 1, against the work done by the C. I. Workshops, till end of June 1941, the rest being met by the undersigned against the contingent grant of Rs.500 given.

The total amount of Corundum supplied by the Director of Geology till date is 444 lbs. Sixty lbs of the above has been used in investigations relating to the manufacture of grinding wheels. 140 lbs of graded sizes of corundum has been used in the manufacture of three and half reams or 1000 sheets of abrasive paper. There is on hand 40 lbs of fine corundym powder from 150 to over 500 mesh in graded forms. This material is found best suitable for finishing purposes and manufacture of ~~valves~~ Valve grinding pastes, honing stones and finishing soaps. There is on hand two reams of assorted grades of abrasive paper.

Samples have been sent to various institutions and heavy orders are now being expected from the Supply Department, Govt of India, Tata Iron and Steel Company, M.S.M., S.I.R., and Mysore Railways, besides the several industrial concerns in Mysore State, including the Hindustan Aircraft company and Scindia Steam Navigation Company. At Hassan implements factory, the material ~~of the~~ abrasive paper was recently tried on wood with very satisfactory results. In the central workshops of the Indian Institute of Science the abrasive paper made here ~~xxx~~ is being used every

day with very satisfactory results both on high tensile as well as low tensile strength materials. The Central Industrial Workshops have found the papers very useful from the stand point of durability and finish in action when applied to mild steel shaftings in a medium of oil. Tested in the undersigned's laboratory the products have been found satisfied the British Standard Specifications for plain weave abrasive cloth. For tests made at Cawnpore and Alipore Test House at Calcutta the offical results are being awaited. Meanwhile arrangements for handling a production from 4 to a maximum of 20 groces of sheets both paper and cloth per day by working the gumming machine are being made to be able to meet the popular demands expected for the goods

There is an establishment coming to nearly Rs.500 a month in the undersigned's Laboratory at present and having trained a number of workers and educated young men it has been decided to commence systamatic economic industrial production of the standerdised goods from 1st Sep 1941, to show the validity of the main deductions which the undersigned indicated to Govt on 2nd December 1940. With a view to standerdise abrasive cloth and also with a view to prepare fillets the undersigned has set up two hand looms in his laboratory to try various strengths of fabrics prepared at specific cost factors. It is gratifying to note that the cloth being prepared is coming to expectations. In connection with the commercial production from 1st September 1941, the 30 tons of Koratagiri corundum may be made available at Rs,75

at Rs.75/- per ton F.O.R.Bangalore, and further arrangements may be made for a continuous supply of about 100 tons of corundum and 50 tons of staurolite per year in the first instance for securing the interests of the very important industry and establishing it on competative lines.

With regard to the grinding wheels production :- Immediately the press and the speed cones are delivered by the C.I.Workshops, it is decided to expediate work in that direction As one wheel given for trial to the Secretary of the industrial research board gave way and narrowly an accident was averted, the undersigned tested ~~some wheels~~ another wheel in the presence of the Director of Industrial Concerns in the Electric Factory. While it stood 5000 revolutions safely, at 6000 without flying off as on the previous occasion, ~~it stood one test.~~ However it develoned right acroos a hair crack and thereon the undersigned resolvednot to send the wheels to any body for trial or test before he himself tests them in his special equipments as a first safety measure in this research connected with the industry. Immediately the speed cones designed for a maximum speed of over 8000 revolutions per minute are set up and the wheels both with ceramic and silicate bonds are run in reinforced concrete chambers to eliminate accidents attendant with this work, the undersigned will be in a position to give valid indications of the progress attained in relation to the bond strength and production ~~data~~

details.

For the production of wheels of specific dimensions as per standard specifications the press reffered ~~xxxxxx~~ earlier has been designed, and various sizes of products for various uses are proposed to be made immediately it is set up. In connection with this programme the undersigned has to express his grateful thanks to the hearty cooperation that the Director of Industrial Concerns and the Director of Industries have ben extending from the beginning

With the facilities so kindly arranged by the Government in the Porcelain Factory, The Industrial Workshops, and the Engineering College and the Cooperation the Director of the Indian Institute of Science ~~is extending~~ the undersigned confidently expects the work in progress under the auspices of the Mysore Board of Industrial Research to prove most beneficial in the establishment of a stable industry in the state.

The Director of Geology who has been so kindly keeping in touch with the work in this laboratory from time to time was pleased to show the Minister in charge of Industries and labour on ~~w~~th July 1941, and the Minister was pleased to acquainted himself with the several control equipment and details of progress, subsequent to the Law Minister's visit the Minister in charge of Govt Press and Local Self Govt was pleased to visit this laboratory and acquainted himself with the use to which the gumming machine is being put to.

Since the undersigned retuned from his All India Tour, on 19th April, the Finance Secretar to the Government of Mysore, the Deputy Chief Comptroller to the Government, Superintendent Government Press besides the Development Secretary paid visits to the Laboratory to obtain an idea of the wok k done here. The Secretary to the Industrial Research Board also very kindly interested himself in the work and he is arranging for the testing of the abrasive products in the Electrical Factory as well.

For establishing this industry on a large scale, the undersigned felt it but desirable to run the commercial programme for an year with regular establishment, with the equipment available and ordered for in connection with this development.

For a commercial production programme the following expenditure has been estimated, over and above the Rs,5000 worth of equipment ordered for and referred to earlier. On raw materials running stores, filling and packing materials per day come to about Rs.75/-. Establishment ten rupees per day. Unforeseen contingencies allowances, advertisement 50 Rs per day.Total Rs.115 per day. Estimated net profits 40 to 50 percent, on goods sold. The manufacture of grinding wheels and other miner abrasives in the comercialprogramme to be commenced from 1st September 1944is an ~~xxxxxxxx~~ a secondary by-product programme in the main scheme for handling upto 5 reams of abrasive paper

and cloth per day.

An expenditure of Rs.2000 for the development of a glue plant making use of the fleshings of the Mysore Tannaries along with the expenditure that has tobe met with for purchasing the machinery ordered for about Rs. 2,000 comesup to a total expenditure of Rs, 5000 towards immediate further necessities.

An equal sum of Rs 5000 is found to be required for running expences including raw materials as at any time the Indian Bank has very graciously agreed to purchase all bills against supplies made to Governments and other Institutions ofthe products made in this laboratory to the extent of Rs.2500 in the first instance.

The most important factor favourable for Mysore is the natural raw material entering into the industry which worked out cheaper than in all other places The usefulness of this industry consists in providing employment for nearly 50 people per day in the first instance even under the commercial programme fromist September 1942. Under these circumstances the undersigned suggests that a sum of Rs.5000 may be given as an outright grant for meeting the running charges and a special grant of5000 Rs. made for obtaining further equipments required under the same conditions the sum of 2.500 Rs is made in the past from the Industrial Development Funds. After establishing the assured profits it is desirable that the Governm should consider the continuation of the producti

production programme here only or elsewhere.

Consulting Engineer
and
Geologist

20th Aug

Malleswaram
Bangalore.

(Board of Industrial Planning and Coordination)

176

8th September 1

M. Venkatanaranappa, Esq., B.A.,
Chairman, Mysore Iron and Steel Works, etc.,
Bangalore.

Subject: Manufacture of Abrasive Papers.

I am directed to state that as per orders of the Chairman at the meeting of the Board on the 5th instant, a special sub-committee with the personnel noted in the margin has been constituted to examine the proposition of Mr. P.S. Narayana, Consulting Industrial Geologist and Engineer, to manufacture Abrasive papers on a semi-commercial scale.

1) Mr. M. Venkatanaranappa, B.A., Chairman, M.I.S.W etc., (CHAIRMAN & CONVENOR)
2) Mr. B. Rama Rau, M.A., D.I.C., etc., Director of Geology in Mysore.
3) Mr. B.G. Appadurai Mudaliar, B.A., B.Sc., etc., Director of Industries & Commerce in Mysore.

Mr. P.S. Narayana has been requested to submit the scheme to you for favour of further action and as desired by you he has also been intimated that the sub-committee would meet at his Laboratory - 41, East Park Road, Malleswaram, on Wednesday the 10th instant at 9 a.m. Copy of this letter has been sent to other members for their information.

I am desired to request you to be so good as to take necessary further action in the matter.

I have the honor to be
Sir,
Your most obedient servant,

SD

Secretary.

P.T.O.

177-3/41-2 Imsc 879

Copy with Compliments to

1) Director of Geology in Mysore for information with a request that Mr.Narayana may also be intimated of this engagement.

2) Director of I & C for information.

3) Mr.P.S. Narayana, 41 East Park Road, Malleswaram with a request to meet the members of the sub-committee at his Laboratory on Wednesday the 10th Septr.1941 at 8 A.M. and submit his scheme for examination.

Secretary.

(Board of Industrial Planning and Coordination)

221

15th Septr. 1

One.

P.J. Narayana, Esq., B.A., B.Sc., etc.,
Consulting Industrial Geologist and
Engineer, 41, East Park Road,
Malleswaram, Bangalore.

Dear

Subject: Manufacture of Abrasive Papers.

Refce: This office letter No.177-3/41-? dated 8.9.41 intimating that the members of the special sub-committee would call on your laboratory on 10.9.41

Referring to the above I am desired to forward herewith a copy of the report of the Special Sub-Committee for your information and necessary further action.

Yours faithfully,

sd/-

Secretary.

221/41.2—

Copy of above is forwarded with compliments to the Director of Geology in Mysore, Bangalore for favour of information.

Secretary.

10th September 1941.

We went and saw Mr. Narayan's Laboratory this morning and discussed with him his scheme of expansion as also the work that was being done together with costs. It was unfortunnte that we could not get detailed particulars in the form in which we wanted them nor could we appreciate the various arguments putforward by him. Mr. Narayan says that he has already spent a good deal of money from his private funds together with the amount sanctioned by Government. As regards labour, he wants the cost to be taken at the amount he says he is contributing to the Seva Sadan even though the inmates work for only a few hours. So far as we could ascertain, it looks as though the wage of a woman worker for 8 hours is more than 12 annas.

Our impression is that he has not worked even the small equipment that he has rigged up continuously and we cannot be certain of the accuracy of the data he has furnished. Subject to this, his cost of production even with the existing plant appears to be Rs.33/- a ream and the selling price is at present about Rs.37/- a ream. A little organisation and proper setting up of the equipment available with him will enable him to produce about 2½ reams of abrasive paper per day of 8 hours and on his own showing he can make a profit of Rs.10/- a day. This can easily be doubled, if the materials and labour are put to the best use.

He was not very clear as to why he wanted an additional allotment of Rs.5,000/- for equipment and Rs.5,000/- for working expenses. To our enquiry as to the minimum outlay he would require to produce 2½ reams per day continuously and without

without the present make-shift arrangements, he gave a list of further equipment costing Rs.3,295/- as detailed in the margin:

Exhaust Fan	Rs.185/-
Air-conditioning equipment	Rs.1,800/-
Dust collector	Rs. 210/-
Speed cone	Rs. 600/-
A temporary shed	Rs. 500/-
Total:	Rs.3,295/-

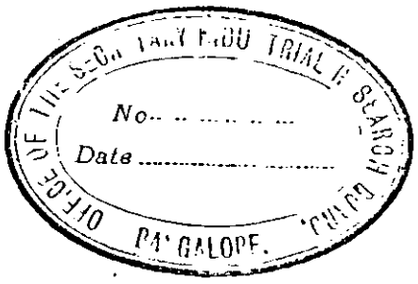
But we are not convinced that the air-conditioning plant is necessary - at the present stage in any case.

Our own impression is that with the equipment now available and such additions as he can purchase from the balance of the grant still unspent about Rs.500/-, he can easily produce 2 to 3 reams of abrasive paper a day and show a decent profit.

The question of further expansion can be considered after he has put the present equipment to the best use.

+++

JW
BR.



OFFICE OF THE CHAIRMAN
THE MYSORE IRON & STEEL WORKS. ETC.
BANGALORE

10th September 1941.

We went and saw Mr. Narayan's Laboratory this morning and discussed with him his scheme of expansion as also the work that was being done together with costs. It was unfortunate that we could not get detailed particulars in the form in which we wanted them nor could we appreciate the various arguments putforward by him. Mr. Narayan says that he has already spent a good deal of money from his private funds together with the amount sanctioned by Government. As regards labour, he wants the cost to be taken at the amount he says he is contributing to the Seva Sadan even though the inmates work for only a few hours. So far as we could ascertain, it looks as though the wage of a woman worker for 8 hours is more than 12 annas.

Our impression is that he has not worked even the small equipment that he has rigged up continuously and we cannot be certain of the accuracy of the data he has furnished. Subject to this, his cost of production even with the existing plant appears to be Rs.33/- a ream and the selling price is at present about Rs.37/- a ream. A little organisation and proper setting up of the equipment available with him will enable him to produce about 2½ reams of abrasive paper per day of 8 hours and on his own showing he can make a profit of Rs.10/- a day. This can easily be doubled, if the materials and labour are put to the best use.

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OFFICE OF THE CHAIRMAN
THE MYSORE IRON & STEEL WORKS, ETC.
BANGALORE

10th September 1941.

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Our own impression is that with the equipment now available and such additions as he can purchase from the balance of the grant still unspent about Rs.500/-, he can easily produce 2 to 3 reams of abrasive paper a day and show a decent profit.

The question of further expansion can be considered after he has put the present equipment to the best use.

+++

HW
BR.
MMM

Original perused by the Chairman & his decision was communicated vide D.O. No. 887 at the meeting on 15/9/41, for favour of definite further action as per orders of the Chairman

15/9/41

(Board of Industrial Planning and Coordination)

16th Septr. 1

282

Urgent.

The Director of Industries and Commerce
in Mysore, Bangalore.

Subject: Abrasive Wheels.

The Chairman observed at the meeting of the Board on the 5th instant, that the testing equipment ordered by Mr.P.S. Narayana, now being fabricated by the Central Industrial Workshop may kindly be arranged to be delivered promptly.

I am to request you to be so good as to issue necessary instructions to the Central -- Industrial Workshop.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary.

(Board of Industrial Planning and Coordination)

254/44.2 17th Septr. 1

One.

The Director of Geology in Mysore,
Bangalore.

Subject: Abrasive papers.

In continuation of this office letter No.222 dated 15th Septr., on the subject, I am directed to forward herewith a copy of the report of the special sub-Committee on the scheme of Mr Narayana, on the above subject.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary.

(Board of Industrial Planning and Coordination)

25th Septr. 1

3187/41-2

S.G. Sastry, Esq., B.A., M.Sc., (Lond),
Director, Sandalwood Oil Factory,
M y s o r e.

Sub: Manufacture of Abrasive Papers.

I am directed to note below an extract from the proceddings of the meeting of the Board held on the 15th instant, for favour of information and further action.

" x x x
The report of the special sub-committee was recorded and the same was handed over to Mr.S.G. Sastry for definite further action on alternative lines suggested at the meeting."

I have the honor to be,
Sir,
Your most obedient servant,

Sd/-
Secretary.

p.t.o.

No. 319/41-2

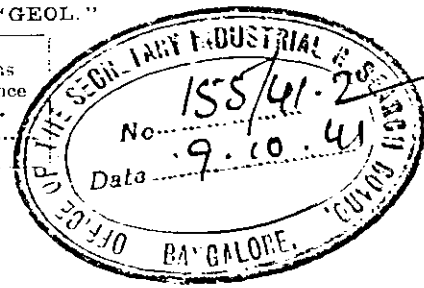
Copy of the foregoing is forwarded with compliments to the Director of Geology in Mysore, Bangalore for favour of information.

Secretary.

GOVERNMENT OF MYSORE.

Telegraphic Address:—"GEOL."

In all communications please quote our reference
No. G.885



MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 6th Octr. *19* 41.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Subject:- Manufacture of abrasive papers.

With reference to your memo No.319/41-2 dated 25th September 1941 forwarding a copy of letter No.318/41-2 dated 25th September 1941, addressed to Mr. S.G. Sastry, Director, Sandal Oil Factory, Mysore, on the above subject for information, I desire to state that I am not aware of the alternative scheme suggested by Mr. Sastry. May I request you kindly to send me a copy of Mr. Sastry's scheme, if it is not confidential, for my information?

Yours faithfully,

B Rama Rao

DIRECTOR,
Mysore Geological Department.

Ar.6/x.

(Board of Industrial Planning and Coordination)

13th October 1

462

The Director of Geology in Mysore,
Bangalore.

Dear

Subject: Manufacture of Abrasive papers.

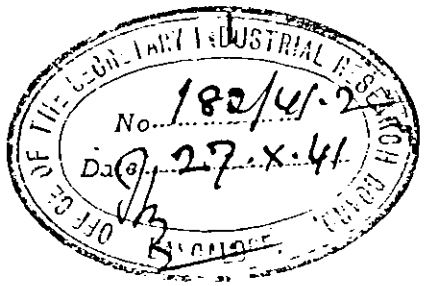
Referring to your letter No.G.885 dated 6.10.41, on the subject, I write to state that I have not yet received a copy of the scheme of Mr S.G.Sastry.

I shall certainly keep you informed of the developments.

Yours faithfully,

Secretary.

P. S. NARAYAN,
CONSULTING ENGINEER & GEOLOGIST.



ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
"MINES HOUSE,"
MALLESWARAM P. O.,
BANGALORE.

26th. Oct. 1941

D. R. M
2/10/41

Re. Abrasives Research and Production.

Dear Mr. Parthasarathy,

I am in receipt of the copy of the subcommi-ttee's report and I thank you for the same. I am glad to inform you that the work is making a rapid headway and I have put the gumming machine into operation with success. The production has increased and during the course of the month I have supplied eleven reams of paper to the Aircraft and smaller amounts to the Indian Institute of Science, Central Industrial Workshop, Jubilee Saw mills and other concerns.

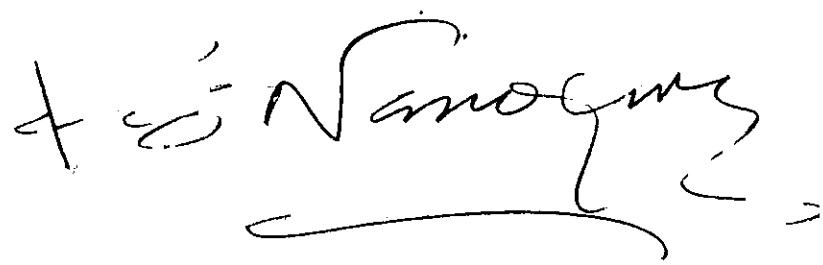
Regarding abrasive wheels and other products I think I will be in a position to produce the marketable products very soon as I am at present intently engaged on that. To facilitate matters I will be getting the equipment that is ready in the Central Industrial Workshop during the course of this week and they have pre-ferred a bill of Rupees One thousand and odd. I will be glad if you can please arrange to see that the balance of the grant is made avail-able to me to pay the same. I have spoken to Mr. B. Rama Rao about it

You are always welcome during the course of this week to visit my laboratory between working hours of 6-30 to 8-30 in the morning and evening and see for yourself the progress. I assure you the products are receiving the due appreciation it deserves, and I am sure the industry is fairly established on a workable basis.

Yesterday the Finance Minister visited this laboratory and saw for himself the work being done and I hope he has carried a favourable impression of the same.

Thanking you for your cooperation and always assuring you of mine,

Yours Sincerely,



Mr. K. Parthasarathy, B.A.,
Secretary, Industrial Research Board,
Bangalore.

(Board of Industrial Planning and Coordination)

29th October 1

No 468/41-2

The Director of Industries and
Commerce in Mysore, Bangalore.

Sub: Abrasive Wheels - Equipment.

In inviting reference to this office letter No.232/41-2 dated 19.9.41, re: the testing equipment now being fabricated at the Central Industrial Workshop, I am directed to enquire if the equipment has been delivered to Mr.P.S. Narayana.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary.

(Board of Industrial Planning and Coordination)

SIBUL

One.

4th November 1

The Director of Industries and Commerce
in Mysore, Bangalore.

Subject: Manufacture of Abrasive papers.

--

Refce: Your letter No.C.O.F.39/41-2 dated 24th Septr.1941, para 7.

--

In inviting a kind reference to this office letter No.318/41-2 dated 25th September 1941, communicating the resolution of the Board on the above subject, I am directed to enquire how the matter now stands.

A copy of letter dated 26.10.41 received from Mr.P.S. Narayana is also enclosed herewith for your information and further needful action, in consultation with the Director of Geology in Mysore, Bangalore.

I request the favour of an early reply.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary

sd/- Secretary

No. 511-/41-2 dated 4th Novr. 1941.

Copy of the foregoing is forwarded with compliments to the Director of Geology in Mysore, Bangalore, with a copy of letter of Mr.P.S. Narayana for favour of information and further needful action in consultation with the Director of Industries and Commerce. Periodical reports may kindly be forwarded re: the investigations for being placed before the Board.

Secretary.

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

D. O. No. 9774-93 ~~G. 1236.~~

MYSORE GEOLOGICAL DEPARTMENT,

Bangalore, 30th October 1941.

Dear Mr. Narayana,

I desire to draw your immediate attention to this office memo No.9774-81 dated 2nd July 1941 forwarding samples of garnet and sillimanite powders for trials, and request you kindly to furnish immediately the results of your investigations on the above samples as to their suitability for preparing abrasive papers, as a reminder has since been received from the Secretary, Industrial Research Board, Bangalore, in this connection.

An immediate compliance per return post is requested.

Yours sincerely,
B Rama Rao

P.S. Narayana, Esq., B.A.,B.Sc.,
Consulting Engineer & Geologist,
41, East Park Road,
Malleswaram P.O., Bangalore.

Memo No. 9774-94 ~~G. 1237~~ dt. 30-10-41

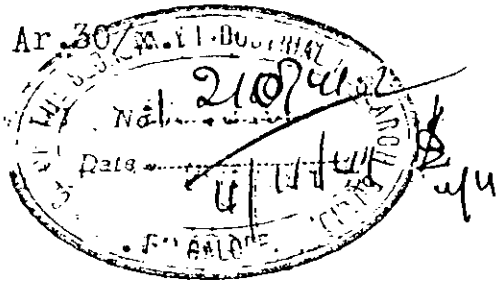
Copy forwarded, with compliments, to the Secretary, Industrial Research Board, Bangalore, with reference to

(P.T.O)

his letter No.450/41-2 dated 27th October 1941. The results of investigation will be intimated as soon as Mr. Narayana's report is received.

B Rama Rao

D I R E C T O R ,
Mysore Geological Department.



Tele { Phone 2004
Grams—Industcom.

In reply please quote No., date and brief title

DEPARTMENT OF INDUSTRIES AND COMMERCE.

From S.G.Sastry, Esq., B.A., M.Sc.,(Lond)

Designation Director of Industries and Commerce in Mysore, Bangalore.

To The Secretary,
Board of Industrial Planning and Co-ordination,
Bangalore.

No. D3-Gl.9070/41-42. Dated 6th November 1941.
Encl.

SIR,

Subject:- Abrasive Wheels - Equipment.

With reference to your letter No.9070 dated the 29th ultimo, on the above subject, I have the honour to state that the equipment has been delivered to -

Mr. P.S. Narayana.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE. No. 218/41-2 Date 8/11/41 1941

I have the honour to be,
Sir,
Your most obedient servant,

M. Raghavachar
For Director.

M.M)6-11-41.

Tele { Phone 2004
Grams—Induscom.

In reply please quote No., date and brief title

DEPARTMENT OF INDUSTRIES AND COMMERCE.

From S.G.Sastry, Esq., B.A., M.Sc.,(Lond)

Designation Director of Industries and Commerce in Mysore, Bangalore.

To The Secretary,
Board of Industrial Planning and Co-ordination,
Bangalore.

No. D3-Gl.9070/41-42. Dated 6th November 1941.
Encl.

SIR,

Subject:- Abrasive Wheels - Equipment.

With reference to your letter No.9070 dated the 29th ultimo, on the above subject, I have the honour to state that the equipment has been delivered to -

Mr. P.S. Narayana.

I have the honour to be,
Sir,
Your most obedient servant,

M. Raghavachar
For Director.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE. No. 218/41 Date 8/11/41

1614

M.M)6-11-41.

Submitted

Sub: Manufacture of Abrasive papers

RESOLUTION of the Board at the meeting held on 15.9.1941.

"The report of the Special Sub-Committee was recorded and the same was handed over to Mr.S.G. Sastry for definite further action on alternative lines suggested at the meeting."

(Report of the Director of I & C on the subject is kept below.)

SANDALWOOD OIL FACTORY,

Bangalore, 6th November 1941

(London),

lore.

ial Planning & Coordination,
lore.

2 dated 4th Novr.1941.

asive paper.

the honour to state as

d at the Sandalwood Oil Factory
when he last paid a visit to
id with some rough appliances
available in the Factory. Some of the samples have been sent to the Mysore Railway Workshop for being tried. For ordinary work the papers seem suitable. One of the difficulties in this matter is to find out the correct quality paper required and I shall be asking the Mysore Paper Mills if they can help me in this matter.

I paid a visit to the workshop of Mr. P.S. Narayana in Malleswaram some time ago. I had also taken the Industrial Engineer with me. I had a fairly detailed discussion with Mr. Narayana and finally it came to this. Mr. Narayana expects the Government of Mysore to give him a subsidy for developing this industry in the State entirely under his supervision and control. He states that he will buy only the capital equipment out of this subsidy and he will not remove this equipment from the State without the permission of the Government. I asked him two or three times if what he is stated above is the correct position and he said that represented his views. Some amount

amount of money has already been advanced to him and I think he has invested the money on scientific apparatus and some mechanical equipment. How this will have to be treated is also a matter for consideration. For developing the industry further, Mr. Narayana expects anywhere between Rs.7,500/- and Rs.10,000/- as subsidy which he is prepared to earmark for capital equipment. Apart from these, I think he would like to maintain the entire ~~roofing~~ running of the factory under his control, being given an absolutely free hand as to how he develops the industry. When I asked him, for the sake of argument, what he would do if the Government did grant such a subsidy and at the end of it nothing tangible resulted, he stated that the Government will be at liberty to take back the equipment.

Mr. Narayana was carrying on the manufacture of sand paper at his house when I visited him. He had engaged a dozen girls to carry on the operations of crushing and pulverising silicon or quartz, sieving, application of specially treated glue to the paper, sprinkling of the powdered quartz on the paper, roller treatment to uniformly spread the silicon on the paper, further treating, grading etc., etc., I asked him what wages he would pay to these girls and he informed me that since he was making a monthly contribution to the Seva Sadan at Malleswaram, he got the services of these girls for a couple of hours or so every morning. He stated that every one of the girls was a student in some school or other and his scheme really consisted in affording opportunities for manual work while the girls were still at school. This was a part and parcel of their education, as it were.

On the scientific side, I believe he has conducted some experiments to find out the correct quality of the glue, its concentration etc., and naturally he would like to keep this information to himself unless he is remunerated for the same.

SUMMARY:- The impression I gathered during my visit was that Mr. Narayana wants a subsidy from the Government of Mysore on certain conditions but would like to have the industry under his personal control.

I have the honour to be,
Sir,
Your most obedient servant,

DIRECTOR.

SGS:KS)

WD 6737—GBPM—80,000—9-5-41.

194

From

The Offg. Director,
Mysore Geological Department,
Bangalore.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dated 6th November 1941.

Despatched

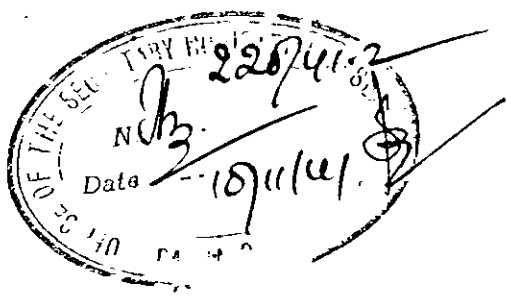
Received

General No. 9774 - 97
No.

Enclosure No. One

Dear Sir,

In continuation of this office No.9774-80 dated 2nd July 1941 regarding the samples of powdered garnet and sillimanite sent by you, I am sending herewith for your information a copy of the report dated 1st November 1941 from Mr. P. S. Narayana, Consulting Geologist, Malleswaram, since received in the matter.



Yours faithfully,

Offg. Director,
Mysore Geological Department.

Ar.6/11.

Copy of Report dated 1st November 1941 from Mr. P. S. Narayana, Consulting Engineer & Geologist, Engineering & Mineral Industrial Research Laboratory, "Mines House," Malleswaram P.O., Bangalore, to the Director of Geology in Mysore, Bangalore.

With reference to your letter dated 2nd July 1941 and samples sent and further reference of 30th October 1941, I write to inform you that from every point of view, hardness, durability and finish abrasive papers (grades No.1½, 1 and 0) made with the sillimanite and garnet samples you were pleased to send, gave very serviceable results for cabinet work.

Both sillimanite and garnet minerals sent gave a better absorption effect when used with glue solutions as adhesives than quartz and glass grains of equal grades. I find they could be profitably used in the manufacture of abrasive papers after further crushing of the type grains sent for producing more cutting edges for giving better work and finish in action.

The results of tests and samples of papers, I am sending separately.

Thanking you,

Board of Industrial Planning & Co-ordination.
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

D.O. No. 554/41.2

x One: Immediate

12th November 1.

Dear Mr. Narayana,

Sub: Abrasive Sheets.

I am enclosing herewith a copy of note on the discussion you had with me on the 10th. inst., with regard to the manufacture of Abrasive Sheets and the financial help you require to put the manufacture on a regular production basis. Will you kindly go through this note and let me know if this is all right?

I request you to return this note by next mail since I would like to place this at the next Board Meeting to be held on Monday the 17th. instant.

Yours sincerely,

P.S. Narayana, Esq.,B.A., etc.,
Consulting Engineer & Geologist,
"Mines House", Malleswaram P.O.,
B a n g a l o r e.

HSK.

P. S. NARAYANA
CONSULTING ENGINEER & GEOLOGIST.

ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
"MINES HOUSE,"
MALLESWARAM P. O.,
BANGALORE.

13th. Nov. 41.

Dear Mr. Parthasarathy, Ref your D.o No 559/41-42 of 12-11-41

I have perused the note sent by you; I find that it has brought forth all the salient points for consideration.

Yours Sincerely,

P Narayana

Mr. K. Parthasarathy B.A.,
Secretary,
Board of Industrial Planning & Cordination.

14/11

Subject No. 4 on the agenda for the meeting on 17-11-41

BOARD OF INDUSTRIAL PLANNING & CO-ORDINATION.

I. R. B. 8] ~~INDUSTRIAL RESEARCH BOARD~~

D.O. No. 579/41-2

2

NOTE.

Subject Manufacture of Abrasive Papers.

File No. of 19 .

12th/15 November 1941.

Refer Subject No 4 on the Agenda.

Letter from Rao. P.S. Narayana kept below.

I Just wanted to gather some information from Mr. P.S. Narayana about the manufacture of Emery and Sand Papers, and I took the opportunity of his visit to the Government Electric Factory on the 10th instant.

Mr. Narayana told me that the productive capacity of his present equipment is limited to one ream (either of Emery Paper or Sand Paper) per day for want of a Drying Equipment. Even for this limited production of one ream of paper per day, he said that he had not got the necessary raw materials.

Mr. Narayana also told me that he should have at least three months' raw materials in stock for regulating the production. The raw materials required for the production of one ream per day for three months, ~~as~~, has been estimated by him as follows:-

1. Corundum	..	Rs. 500- 0- 0.
2. Glue.	..	" 300- 0- 0.
3. Paper.	..	" 750- 0- 0.
4. Labour.	..	"1,000- 0- 0.
	Total.	"2,550- 0- 0.

With this amount, the production is estimated at 100 reams of paper in three months. The cost of production, therefore, works out to Rs.25/- per ream. The market rate is ascertained to be Rs.30-Rs.35/- per ream.

The second proposition is that with a supplementary equipment of a Drying Equipment costing Rs.5,000/-, the

WD 01345—GPB—750—7-1-41

I. R. B. 8] INDUSTRIAL RESEARCH BOARD

NOTE.

Subject ..... Manufacture of Abrasive Papers.

File No. of 19

12th November '41.

the productive capacity of the plant is estimated at 5-6 reams per day. If this equipment is made avilable, the amount required for holding minimum stocks of raw materials for three months is estimated as follows:-

1.Corundum(graded) ..	Rs.	2,250-0-0.
2.Glue. ..	"	1,500-0-0.
3.Paper. ..	"	3,250-0-0.
4.Labour & other charges.	"	4,500-0-0.
Total.	"	11,500-0-0.

With regard to Corundum, it is ascertained that the Geological Department holds a stock of about 30 tons of Crude material which is priced at Rs.75/- per ton, f.o.r. Bangalore. Mr. Narayana told me that out of these 30 tons, 16 tons of refined material could be obtained, which on further grading would yield 8 tons of graded material for the use in the manufacture of paper.

With regard to the financial help required by Mr. Narayana from Government, I understand from him that the only security he could offer is his Laboratory and its equipment. The point for consideration is whether he should be given financipal help for the production of one ream of paper per day, in which case, the amount required by him would be Rs. 2,550/- or for the production of 5-6 reams of paper per day for which he

WD 01345—GPB—750 - 7-1-41

BOARD OF INDUSTRIAL PLANNING & CO-ORDINATION.

I. R. B. 8] ~~INDUSTRIAL RESEARCH BOARD~~

NOTE.

Subject ..... Manufacture of Abrasive Papers.

File No. of 19 .

12th November 1941.

~~15~~ 16

he would require Rs. 10,500/-, of which, Rs.5,000/- would be for the Drying Equipment and the rest for raw materials, labour and other incidental charges.

Meeting paper have been submitted to-day.

6/11

CHAIRMAN) 5 P.M.

HSK.

(Board of Industrial Planning and Coordination)

3rd November 1

No. /41-2

1) Copy of the foregoing is forwarded with compliments to the Director of Geology, Mysore, Bangalore for information and necessary action in consultation with the Director of Industries and Commerce.

2) Copies to Dr.P. . Narayana, Consulting Industrial Geologist, Hallesvaram, with compliments, for information

Secretary

I. R. B. 2]

GOVERNMENT OF MYSORE.

INDUSTRIAL RESEARCH BOARD.
(Board of Industrial Planning and Coordination)

No. 624/41-2 Bangalore, dated ..23rd..November 194 1

Encls: One

FROM

K. PARTHASARATHI, ESQ., B.A.,
Secretary, Industrial Research Board,
BANGALORE.

To

S.G. Sastry, Esq.,B.A.,M.Sc.,(Lond),
Director of Industries and Commerce
in Mysore, Bangalore.

SIR,

Sub: Manufacture of Abrasive papers.

A copy of my note re: the discussion I had with Mr.P.S. Narayana is herein enclosed for your reference. It was decided at the meeting held on the 17th instant that an advance of Rs.2,500/- might be placed at your disposal, to work the scheme "A" indicated in the enclosed note, for a period of three months and that the Director of Geology might supply corrundum to you on account.

I request you to be so good as to take necessary further action in the matter and the Board kept informed of the developments.

I have the honor to be,
Sir,
Your most obedient servant,
sd/-
Secretary.

No. 625 /41-2

1) Copy of the foregoing is forwarded with compliments to the Director of Geology in Mysore, Bangalore for information and needful action in consultation with the Director of Industries and Commerce.

2) Copies to Mr.P.S. Narayana, Consulting Industrial Geologist, Malleswaram, with compliments, for information.

Secretary

Tels.—"INDUSCOM."

DEPARTMENT OF INDUSTRIES AND COMMERCE.

Mr.S.G. Sastry, B.A.,M.Sc.(Lond),
Director.

OFFICEOF THE DIRECTOR,

Bangalore, dated the 24th November 1941.

D. O. No. 14/41-42.

Dear Sir,

I wish to refer to the long conversation we had on the 18th of this month about the manufacture of abrasive papers at your place in Malleswaram with the assistance of Government. You have given a scheme involving an expenditure of Rs 2,500/- approximately to manufacture 100 reams of abrasive paper in the course of three months. Our discussions related to the best way in which the amount could be utilised by me in co-operation with you. You informed me that you will send me a proposal about this matter. I shall be glad to hear from you as soon as possible.

Yours sincerely,
Sd/-. S.G. Sastry,

SECRETARY INDUSTRIAL ... No 282/41-42 ... 25/11/41 ... BANGALORE

R.S.Narayana, Esq.,
Consulting Engineer and Geologist,
Malleswaram P.O. Bangalore.

Copy of the above is forwarded to Mr.K. Parthasarathi, Secretary,Board of Industrial Planning and Co-ordination,Government Electric Factory, Mysore Road, Bangalore City, for information.

25/11/41

SGS-PSS.

Director.

(Board of Industrial Planning and Coordination)

30th December 1

D.O 846/41.1

Dear Sir,

Sub: Manufacture of abrasive papers.

The above subject is included in the agenda for the meeting on the 5th proximo. I am desired to request you to be so good as to forward a short note (in duplicate) on the present position regarding the manufacture of abrasive papers.

Yours sincerely,

S.G. Sastry Esq., B. A., M.Sc., (Lond),
Director of Industries and
Commerce in Mysore, Bangalore.

Subject No 9

Tele.—"INDUSCOM." *Codes used*—A.B.C., 5th Edn., Bentleys.

GOVERNMENT OF MYSORE.

Department of Industries and Commerce.

Mr. S.G. Sastry, B.A., M.Sc.(Lond.),
Director.

OFFICE OF THE DIRECTOR,
INDUSTRIES AND COMMERCE.

No. D3-Gl. 9070/41-42
Enc. One.

Bangalore, dated the....31st..Decr..1941.

Dear Sir,

Refce.- Your D.O. No.846/41-42 d/30.12.1941.

Subject:- Manufacture of Abrasive-papers.

I enclose herewith for your information copy of a letter which I have addressed to the Development Secretary on this subject. I am awaiting further instructions from the Development Secretary.

I remain,
Yours sincerely,

K. Parthasarathi, Esq., B.A.,
Secretary, Board of Industrial
Planning & Co-ordination,
Government Electric Factory,
Mysore Road, BANGALORE CITY.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
3 JAN 1942
No. 3664/41

At the meeting

SGS:ATK)

Copy of letter Dated Camp Chitaldrug 4th Decr. 1941 from the Director of Industries and Commerce in Mysore to the Secretary to Government, Development Department, Bangalore.

****

Subject:--Manufacture of abrasive Paper.

***

I have the honour to submit herewith for the information of Government copy of a proposal given to me by Mr.P.S.Narayana on the subject of further developments of the abrasive paper industry in Bangalore.

The early experiments were conducted by Mr.P.S.Narayana and after he had progressed a little in this line, he contacted with the Director of Geology and on his recommendation a sum of Rs.2,500 was sanctioned by Government. This amount has been invested --- mainly in capital equipment and I understand the entire amount has been utilised.

We had an occasion to visit the laboratory of Mr.P.S.Narayana on Sunday the 30th November 1941 and we had a more detailed discussion with the gentleman. We went through the accounts shown by him giving details of costs of production and sales of finished products for the first three months of the experiments.

I recommend that the sum of Rs.2,500 now agreed to be invested on further experiments in this industry be placed at my disposal. I shall advance the amounts to Mr.P.S.Narayana generally on the lines indicated in his letter. Further the object of taking this stage of the experiments will be to find out if the experience gained thus far during the last three months will help us to reduce the costs of manufacture further and also help us to market the products under competitive conditions. I feel that this next stage of development should be taken up without delay.

I request immediate orders.

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

Read:—

Government Order No.D.2908-11/I.&.C.230-40-8 dated 23rd December 1940, sanctioning a grant of Rs.2,000/- to Mr.P.S. Narayana, B.A., B.Sc., (Min) Etc., Consulting Engineer and Geologist, Malleswaram, Bangalore, under certain conditions, for conducting investigations on the preparation of abrasive products from Mysore Minerals.

2. Government Order No.D.3468-69/I.&.C.230-40-16 dated 24th January 1941, sanctioning the payment to Mr.P.S. Narayana of a sum of Rs.500/- as an outright grant for erection charges, contingencies and other incidental expenditure in connection with the investigations that he is conducting.

3. Letter No.14/41-42/A1. dated the 4th December 1941, from the Director of Industries and Commerce, stating that the amounts sanctioned in the Government Orders read above have been invested mainly in capital equipment and requesting that in the circumstances, a sum of Rs.2,500/- may be placed at his disposal for being advanced to Mr.P.S. Narayana to further develop the Abrasives industry.

JH 6/1/42 ORDER NO. D 3317 - 9 / Dev - 230 - 40

Dated, Bangalore, the 5 January 1942.

The proposal of the Director as recommended by the Board of Industrial Planning is approved.

SECRETARY. BOARD OF INDUSTRIAL PLANNING & COORDINATION. JAN 7 1942 No.

For Secretary to Government, Development Department.

To The Director of Industries and Commerce in Mysore.
" Secretary, Board of Industrial Planning & Coordination.
" Comptroller to Government of Mysore.

K.M.R.5. No. 893/41-2 Bangalore, Dated, 13th Jan.1942.

Copy with compliments to the Director of Geology in Mysore, Bangalore.

Secretary.

(Board of Industrial Planning and Coordination)

No 892/41.2

13th January 2

The Controller of Supplies,
South India Circle, United India Buildings,
Madras.

Refce: Your letter No.9731-2 dated 20.6.1941 re: samples of Sillimanite and Garnet.

Referring to the above, I am directed to state that after testing the samples it is now reported that both the samples of Sillimanite and Garnet minerals gave serviceable results and gave better absorption effect when used with glue solutions as adhesives than quartz and glass grains of equal grades. It is also reported that these could be used in the manufacture of abrasive papers after further treatment.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary.

922/41-2

16th January 2

The Director of Industries and Commerce
in Mysore, Bangalore.

Manufacture of Abrasive papers.

6th January 1942

"It was noted that Government had since sanctioned Rs.2,500/- and the amount kept at the disposal of the Director of Industries and Commerce for being advanced to Mr.P.S. Narayana to further develop the industry. Further report was awaited."

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE.

Read:—

Government Order No.D.2908-11/I.& C.230-40-8 dated the 23rd December 1940, sanctioning a grant of Rs.2000 to Mr. P.S. Narayana, B.A., B.Sc. (Min) etc., Consulting Engineer and Geologist, Malleswaram, Bangalore, under certain conditions, for conducting investigations on the preparation of abrasive products from Mysore minerals.

2. Government Order No.D.3468-69/I.& C.230-40-16 dated the 24th January 1941, directing inter alia that the equipment purchased out of the grant referred to in the Government Order read above may be left with Mr. P.S. Narayana for one year in the first instance.

3. Letter No.9774-103 dated the 24th December 1941, from the Officiating Director of Geology, recommending that Mr. P.S.Narayana may be permitted to retain the equipment for abrasives manufacture, for another year and that it may then be renewed from year to year according to the circumstances.

***

Order No: D3928-30/2 & c 361-41

Dated the, Bangalore 2-2-1942 ~~January 1942~~.

The Director's recommendation is Sanctioned.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
FEB 3 1942
No 446 /1942

Secretary to Government,
Development Department.

To

The Director of Geology in Mysore.
The Secretary, Board of Industrial Planning and Co-ordanation.
The Comptroller to Government.

HSS-4

No 115

Mr. George Matthan, B.Sc.,
XXXXXXXXXXXXXXX

24th February 2

Dear Sir,

Subject: Manufacture of Abrasive Papers

In inviting a kind reference to this office letter No.922 dated 16th January 1942, communicating the decision of the Board on the above subject I am desired to request you to kindly expedite the forwardal of the report.

This subject is on the agenda for the next meeting of the Board.

Yours sincerely,

S.G. Sastry, Esq., B. ., L.Sc., (Lond)
Director of Industries and
Commerce in Mysore, Bangalore.

VG.)

Tele {Phone No.2004
Grams—INDUSCOM.

In reply please quote number, date & short title.

GOVERNMENT OF MYSORE

DEPARTMENT OF INDUSTRIES AND COMMERCE.

FROM

S.G. Sastry, Esq.,B.A.,M.Sc.(Lond),
Director of Industries and Commerce in Mysore,
Bangalore.

To FEB 26 1942
8525
E. Rama Rao, Esq.,M.A.,D.I.C.(Lond), F.G.S.,F.N.I.,
Director of Geology in Mysore,
Bangalore.

No. D3-329/41-42-

Dated. Bangalore, 24th February 1942.

Enclosures

SIR,

Subject:- Supply of corrundum required by the abrasive paper industry.

I have the honour to inform you that at one of the meetings of Board of Industrial Planning and Co-ordination, it was resolved that the Geological Department should obtain a waggon load of corrundum and have the same delivered to the Director of Industries and Commerce, who in turn, will arrange for its utilisation in abrasive paper industry. I request you to kindly make early arrangements to obtain the material. As soon as I hear from you, I shall tell you as to where the stuff will have to be delivered.

I have the honour to be,
Sir,
Your most obedient servant,

Sd/-. S. G. Sastry,

Director.

Copy of the above is forwarded to the Secretary, Board of Industrial Planning and Co-ordination, General and Revenue Secretariat, Bangalore, for information.

SECRETARY
BOARD OF INDUSTRIAL
PLANNING & CO-ORDINATION
No. 4387/

D.O No. 1167/36-2-42 Director.

SGS-P

For favour of perusal.
A. This has reference to the decision of the Board, arrived at the meeting held on 17.11.41 (Flag E) The Dir of Geo has been requested to supply corundum to Dir of Ind. on account
Secy)
Chairman & Minister Law

1228/41-2

11th March 1942.

The Director of Industries and Commerce
in Mysore, Bangalore.

Manufacture of abrasives.

6th March 1942

The Director of Industries and Commerce reported that Mr.I.S.Narayana had just returned from his tour in Northern India and that he had obtained in December 1941, from the Geological Department about 50 tons of corundum and that further work was progressing. The Director of Geology had stated that he visited the factory recently and had told that Government had proposed about 12 reams of [illegible] which had not yet been sold on account of Mr.Narayana's absence on tour. The Chairman suggested that the Director of Industries and Commerce and Director of Geology might visit the factory and send a further report in the matter.

Memo No.1229-1/41-2 dated 11th March 1942.

Copy of the above is forwarded with compliments to

1) The Director of Geology in Mysore, Bangalore for favour of information and necessary further action.

2) The Development Secretary for favour of information.

sd. M.S.Srinathan.

Secretary.

Subject Ar

Tele { Phone— 2004.
Grams—Induscom.

In reply please quote No., date and brief title.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

From

S. G. Sastry, Esq.,B.A.,M.Sc.(Lond),
Director of Industries and Commerce,
Bangalore.

To

T. Shamanna, Esq.,M.A.,
Secretary, Board of Industrial
Planning and Co-ordination,
Public Offices, Bangalore.

No. B3-329/41-42
Encl. Encl one

Dated 6th April 1942.

Sir,

Manufacture of abrasive papers.

I have the honour to inform you that I was not able to arrange for a joint inspection with the Director of Geology of the Factory conducted by Mr. P.S.Narayana at Malleswaram. I visited the factory on 12th March 1942, I submit herewith for the information of the Board my inspection notes.

I have the honour to be,
Sir
Your most obedient servant,

Director.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & CO-ORDINATION.
APR 7 1942
No. 4 pm.

SGS-PSS.

Manufacture of Abrasive Papers and cloth - Mr.P.S. Narayana.

Visited Mr. Narayana's factory where crushing work is being done this morning.

He is continuing Dhenki arrangement in two stages for crushing corrundum. He wants to try the ordinary mortar mill (ಗಾಣದಲ್ಲಿ) with two bullocks. He is also building one underground furnace to heat corrundum with charcoal to a high temperature and suddenly quench the same and grind it. By this he says he gets corrundum particles with sharper edges.

He is having a Nakki loom to prepare tapes for being applied over with the abrasive composition and he told me he had orders on hand for supplying a number of abrasive tapes required in the textile industry - standard length 115 feet each.

He is manufacturing cloth. For this he is dyeing corrundum to make it look black.

He had a carding machine for carding Cuddapah asbestos and showed me some fine stuff. He stated Mysore asbestos is not good for this purpose. His idea is to prepare asbestos ropes.

Sd/- S. G. Sastry,
12-3-42.

"Copy"

Director.

PSS.

Subject AP. 2

Mr. B. RAMA RAO, M.A., D.I.C., F.G.S.,
Director of Geology.

MYSORE GEOLOGICAL DEPARTMENT,

D. O. No. 9774-122. Bangalore, 20th April 1942.

Dear Sir,

Joint Inspection of Abrasive Investigations of Mr. P. S. Narayana.

With reference to your D.O. letter No.1372/41-2 dated 17th April 1942 on the above subject, I desire to say that I returned from camp only this morning. I ascertained from the Director of Industries and Commerce that he is going away this afternoon to Mysore and will be returning to Bangalore on the 23rd evening. Consequently, it will not be possible to arrange a joint inspection, by both of us, of Mr. Narayana's progress of investigations so far, before the date fixed for the next Board meeting, that is the 24th instant. The Director of Industries and Myself will try to inspect together Mr. Narayana's work as early as possible after the 24th.

SECRETARY
BOARD OF INDUSTRIAL
PLANNING & CO-ORDINATION
APR 21 1942
No. 500/41-2

Yours sincerely,
B Rama Rao

The Secretary,
Board of Industrial
Planning & Co-Ordination,
Bangalore.

P. S. NARAYANA,
CONSULTING ENGINEER & GEOLOGIST.

Subject No. 2

ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
"MINES HOUSE,"
MALLESWARAM P.O.,
BANGALORE.

BOARD OF INDUSTRIAL
PLANNING & CO-ORDINATION
APR 21 1942
No. 495/41.2

To 29/4/42

S.N. Pvt of

Jo

Jh 3 21/4

21. 4. 42

The Secretary.
Board of Industrial Research, Planning & Co ordination in Mysore
Bangalore

Dear Sir,

Ref. Production of Abrasive Papers

I have on hand 100 reams of Abrasive papers manufactured on commercial lines between 21. 1. 1942 and this day. I understand these 100 reams could be consumed in the 10 industrial schools in Mysore State under the department of industries and Commerce in the year 1941-43

I request you to see that this quantity which could be made available at Rs 22-8-0 + 18% F.O.R destination (or Rs 25. F.O.R destination) for all the 10 schools is taken over by the director of industries and the sum of Rs 2500/ which has been sanctioned by the govt on the recommendations of the board for further advancing the industry and which is lying with the director of industries be made available to me for promoting the industry on right lines. The sum of Rs 2500/ thus advanced the director of industries might be pleased to recoupe from the allotted grants to his industrial schools.

Thanking you

Yours Sincerely
P. S. Narayana

Enclosure. One Test Certificate

P. T. O

While required the work in progress in my Research Laboratory :—

(1) The tape making machine for assisting the Corundum fillet manufacture is ready & is just in comm

(2) Corundum is systematically being treated before grinding and grading of the same under various heads.

(3) The demand for the emery cloth, emery paper & sand paper have enabled further improvements to be made in the technique of production eliminating much of the difficulties associated with the process.

(4) The grinding wheel section is set up on right lines as heavy demands are coming for the same

(5) The production of bases for electrical heaters, made with 75 parts fire clay & 25 parts, ball clay has given good results

(6) The production of asbestos gland packing with the Carding machines set up is further being improved

(7) The production of graphite lubricants is in progress

(8) The work related to production of small electrodes is in progress.

On the whole the laboratory has been equipped with over Rs 25,000 worth of fresh equipment this year, including field survey equipment for carrying out geological & other field investigations. The sales total are expected to reach 10,000 limit by the end of April.

P. S. Narayanan

Given by Mr. Narayan 12/2/94

GOVERNMENT OF INDIA

DEPARTMENT OF COMMERCE

GOVERNMENT TEST HOUSE, ALIPORE, CALCUTTA.

TEST CERTIFICATE

No. X/PC/146/A, dated the 11 FEB 1942 194 .

Issued to Mr.P.S.Narayana, Engineering & Mineral Industrial Reaearch Laboratory, "Mines House", Malleswaram P.C. Bangalore,

with reference to letter No. - , dated the 13th January, 1942.

Register No. 580-P.C. Date 19.1.42.

Sample received on the 17th January, 1942.

Samples of two batches of abrasive paper.

The above samples were of two kinds, one kind consisting of six sheets each marked "GLASSO 1½" and the other consisting of six sheets each marked "CORUND 1½".

CONSULTING ENGINEER & GEOLOGIST P.S.Narayana Date - - - - - BANGALORE.

The individual sheets were also marked and "Engineering & Mineral Industrial" Research Laboratory , on the back of each sheet.

Test.

A test piece cut from each sheet of each kind was mounted on the flat face of a blank steel file and tested in an Automatic File Testing Machine on kiln seasoned first class Burma teak heartwood test bar, 1" square in section and with the test end of the test bar at right angles to the direction of the grains of the wood, until it completed 3000 strokes, whilst the pressure of the test piece on the test bar was 10 lbs. per sq. inch, the length of stroke was 6" and the average number of strokes per minute was 52.

The results of the above tests are tabulated below:-

N. B. This certificate or report may not be published for commercial purposes except in full, unless permission for the publication of an approved abstract has been obtained from the Superintendent, Government Test House, Alipore.

G. T. H.-5.

MGIPC—S1—H-4-211—2-4-41—100 Pads.

Serial No.	Description	Average size of sheet in inches length	breadth	Average approximate weight per sheet in ozs.	Loss of weight of test bar in gms. after every consecutive 500 strokes						Total	Atmospheric condition during test period. Temperature °F	Humidity %
1.	Six sheets of abrasive paper marked "GLASSO 1½"	$11\frac{9}{16}$	$8\frac{9}{16}$	0.74	1.00	0.77	0.65	0.57	0.54	0.50	4.03	60 to 75	42 to 57
2.	Six sheets of abrasive paper marked "CORUMD 1."	$11\frac{11}{16}$	$8\frac{9}{16}$	1.10	1.33	1.06	0.99	0.89	0.85	0.78	5.90	58 to 75	41 to 57

Remarks:-

The results indicate that both batches of samples are fairly satisfactory as regards their abrasive characteristics.

A.V. Chowdhuri
for Superintendent.

EA/11.2.42.

Copy of letter No.nil dated 21st April 1942 from Mr.P.S.Narayana, Consulting Industrial Geologist, Malleswaram to the Secretary, Board of Industrial Planning and Co-ordination, Bangalore.

Refce: Production of abrasive papers.

I have on hand 100 reams of abrasive papers manufactured on commercial lines between 21.1.1942 and this day. I understand these 100 reams could be consumed in the 10 Industrial Schools in Mysore State under the Department of Industries and Commerce in the year 1942-43.

I request you to see that this quantity which could be made available at Rs.22/8/- plus 2/8/- f.o.r. destination (or Rs.25/- f.o.r. destination) for all the 10 Schools is taken over by the Director of Industries and Commerce and the sum of Rs.2,500/- which has been sanctioned by the Government on the recommendation of the Board for further advancing the industry and which is lying with the Director of Industries be made available to me for promoting the industry on right lines. The sum of Rs.2,500/- thus advanced, the Director of Industries might be pleased to recoupe from the alloted grants to his Industrial Schools.

Thanking you.

sd. P.S. Narayana.

xxxxxxxxxxxxxxxxxxxxxxxxxxxx

Old Public Offices,
21st April 2

IMMEDIATE

T. Shamanna, Esq., M.A.,
xxxxxxxxxxxxxxxxxxxxxxxxxx

The Director of Industries and
Commerce in Mysore, Bangalore.

Subject: Manufacture of abrasive papers.

Sir,

I am desired to send herein enclosed a copy of letter received from Mr.P.S. Narayana, Industrial Geologist, Malleswaram, on the subject, for your perusal and remarks.

Since this subject is on the agenda of the meeting on the 24th instant, I shall be obliged for an immediate reply.

I have the honor to be,
Sir,
Your most obedient servant,

22-4

Secretary.

1479/41-2

1st May 2

The Director of Industries and Commerce
in Mysore, Bangalore.

Manufacture of Abrasives.

24th April 1942

"The letter of Mr.P.S. Narayana, as also the report of the Director of Industries and Commerce were read. Mr.Narayana had stated that 100 reams of abrasive papers were in stock. The Chairman desired to know as to why this stock was not readily sold in the market. There was a general discussion. The Director of Industries and Commerce was requested to go into the matter further in detail and to consider the request of Mr.Narayana regarding selling the stocks to Industrial Schools in the State."

No.1480-1/41-2 dated 1st May 1942.

Copy w'th compliments to

1) The Director of Geology in Mysore, Bangalore for favour of information.

2) The Development Secretary.

sd. T. Shamanna.

Secretary.

BOARD OF INDUSTRIAL
PLANNING & COORDINATION.

I. R. B. 1]

GOVERNMENT OF MYSORE.

INDUSTRIAL RESEARCH BOARD,

No.
Encls :

Bangalore, dated .....194 .

FROM

K. PARTHASARATHI, ESQ., B.A.,
Secretary, Industrial Research Board,
BANGALORE.

To

SIR,

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE.

SECRETARY
BOARD OF INDUSTRIAL PLANNING & COORDINATION
AUG 4 1942
No 68

Read:—

Government Order No.D.3317-9/I & C 230-40 dated the 5th January 1942, approving that a sum of Rs.2,500/- be placed at the disposal of the Director of Industries and Commerce for being advanced to Mr. P.S. Narayana, to further develop the Abrasive industry.

2. Letter No.D3-329/ 41-42 dated the 20th July 1942, from the Director of Industries and Commerce stating that the advance sanctioned in the Government Order read above was paid to Mr. P.S. Narayana in instalments as and when required by him and that he has been able to repay the entire advance of Rs.2,500/-, that the amount has been duly credited to the treasury on the 26th June 1942, that the results of the working of the Abrasives Industry are encouraging enough to undertake large-scale production to meet the market demand and recommending that Mr. P.S. Narayana may be granted a working advance of Rs.5,000/- (Rupees Five thousand only) free of interest and repayable in a year.

Order No. D 1009-11/I & C 53-42-2

Dated, Bangalore the 1st ~~July~~ August 1942.

The Directors proposal is sanctioned. The amount will be met from the Industrial Development Fund.

P Shamanna
Secretary to Government 31.7
Development Department.

To

The Director of Industries and Commerce in Mysore.
" Secretary Board of Industrial Planning and Co-ordination.
" Comptroller to Government through Financial Department.

GRa.6.

P.S. NARAYANA,
Consulting Engineer & Geologist.

ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
"MINES HOUSE"
MALLESWARAM P.O.,
BANGALORE CITY.

Ref: No.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
JUL 29 1942
No. 62

Dated 28th July 1942.

Recd in person
from Mr. Narayana
To
29.7.42

To

The Secretary,
Board of Industrial Research & Co-ordination,
Government of Mysore,
B A N G A L O R E.

Dear Sir,

With reference to the activities of the Abrasives research sub-committee and the progress that has been made in connection with the production of abrasive materials from Mysore minerals, in my research laboratory, I have pleasure in presenting herewith a brief report for the year 1941-42.

Paper, cloth, chemicals, Glue and other materials, may or may not be available for continuous activity under the changing circumstances in the country, and transport of goods by train from other centres to this place having been restricted. As such, I have decided to keep enough materials for production to meet demands at least till December 1942, in advance. I desire to purchase the materials and temporarilly meet the demand on such purchases by obtaining an advance from the Government from the industrial development funds. I require a sum of Rs.30,000 for various purposes and all the materials and any equipment purchased will be held in trust by me for Government and as soon as produttion is released and realisations are made these realisations will be paid to Government account in reduction of advance, and a small

Refer page 2 - para 3. Agents to be supplied 100 Reams of abrasive cloth or paper or both every month at 50 Reams per fortnight. Total value of goods per month Rs 6000/

interest of 3½% may be charged the whole being treated as a cash credit arrangement specially sanctioned for developing this industry in my endeavour to pursue and establish and capture markets that were higher to monopolised by foreign producers. To guard against risk of rise in prices and non availability of materials and to take the best oportunity of the increasing demand for these goods, I request you to see your way in obtaining this special facility in the Government.

Thanking you,

Yours sincerely,

P.S. Narayana.

ENGINEERING & MINERAL INDUSTRIAL
RESEARCH LABORATORY,
MALLESWARAM.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
JUL 29 1942
No 62

BRIEF REPORT.

Subject: Production of Abrasive Materials from Mysore Minerals.

IN their G.O.No.D.2908-11/1 & C 230-40-8 dated 23rd December 1940, Government were pleased to grant a sum of Rs.2,000 for certain equipment and Rs.500 for erection and contingent charges for extending investigations by the undersigned on the production of abrasive products from Mysore Minerals under the auspices of the Mysore Board of Industrial Research, in his Engineering & Mineral Industrial Research Laboratory. Systematic research undertaken in the Laboratory revealed that ofall minerals, grey and ruby corundum are the most suitable ~~for~~ minerals for the development of a stable abrasive industry in the State.

Production of Mysore Sand paper, Emery paper and cloth on a semi commercial basis was started in ~~September~~ August. 1941. When it was found that the material produced could compete favourably with other products both Indian and Foreign in regard to their abrasive characteristics and durability, it was felt desirable to take up commercial production. Government were pleased to grant an advance of Rs.2,500 for the

manufacture of 100 reams of abrasive papers within a period of three months as an experimental measure and the production programmem was successfully carried out within a period of 2 months and the sum of Rs.2,500 advanced was repaid to Government through the Director of Industries and Commerce in Mysore.

To meet urgent demands for emery cloth, of special types further investigations were made and the production of Mysore emery cloth on commercial lines was entered upon as a very special measure.

As a definite step towards organising sales, in June 1942, Messrs, A. Ahmedally & co., Bangalore City, were appointed sole agents for South India for Mysore sand and Emery papers and cloth, and it was agreed that the agents will be supplied with not less than 50 reams of abrasive papers or cloth or all put together every fortnight.

Government Alipore Test House and the Government Ordinance Testing Laboratory Cawnpore, and a number of industrial concerns and institutions tested the products and reported on the defects they observed severally. Reports of such tests have been found to be encouraging and all the defects notified have been eliminated.

Among the numerous customers for the products

being made may be mentioned, the Mysore Electrical Department, Government Electric Factory, Mysore Railways, Hindustain Aircraft Limited, Indian Institute of Science, Dayal Bagh Model Industries Central industrial workshops, besides the several Industrial Schools in the State.

Engineering & Mineral Industrial Research Laboratory was registered as manufacturers and suppliers of all Abrasive products on the lists of the Mysore Government Stores purchase Committee as well as on the lists of the Indian Stores and supply Departments of Government of India.

Apart from the production of Mysore Emery paper, Mysore emery cloth and Mysore sand papers, experiments on semi commercial basis are being made for the production of Mysore Emery fillets using the best corundum grains for use in textile mills in long lengths. A special machine for the same has been made and this section will be in full operation soon.

Among other abrasive productions being seriously worked at for production purposes are the abrasive wheels, blocks and discs. A variety of moulds are made in different sizes to meet specific requirements. Enquires and advance orders are being received from Mysore Railways, Government Electric Factory, the Indian Institute of Science and Hindustan Aircraft

for the wheels and it is hoped that this section will be in full swing in a couple of weeks.

Regarding finer abrasives and other byproducts:- The finer materials for electroplating and metal industries, galss and lens grinding industries besides the special gradings for rice and flour mills, deserve mention. Messrs. Adiar Dutt & Co., Calcutta, have been regualar consumers for glass and lens grinding materials and Hindustan Aircraft Ltd., and other Industrial concerns are requisitioning for their requirements from here for their electroplating and allied works. The rice and flour mills in the State as well as outside have found the special gradings produced here as best produced for replacing all foreign and other supplies in the Indian market, and this is a gratifying factor in the development of the abrasive industry in the State.

Enquires are coming forth for supply of various polishes and pasts which are being worked up using Mysore Corundum, Burnt lime, Hiriyur type of sands, Red Hamatite, Chromite, Bauxite, Manganese, Soap stone, China clay, quartz, Staurolite and graphite and the work has been taken on hand.

From the brief outline, it might be seen that the progress is b ing made on every side to take the opportunity of the present situation, both to expedite the production and stabilise the industry on sure grounds.

Continuous and systematic research is considered essential in the best interest and prosperity of this development programme and every necessary step is being taken to provide the research laboratory with every essential equipment for safe and proper conduct of work.

During the course of the year under review, the Dewan Saheb, all the Ministers of Government, financial and Development Secretaries to Government, Director of Geology, Director of Industries and Commerce and his Assistant Directors, Director of industrial planning and co-ordination, Director of industrial concerns in Mysore, Chairman of the Bhadravathi Iron & Steel works, Deputy controller to Government of Mysore, Chief surgeon to Government, city Health officers, Director of the Indian Institute of Science, President of the Board of Scientific and Industrial research Government of Indi General Manager of Hindustan Aircraft Limited, besides a number of prominent citizens, visited the labcratory and production works.

The Superintendents of Government press and Central Industrial workshops, the Managers of the Government Electric Factory, the Porcelain and Glass Factory, the Principal of the Engineering College and the Superintendent of the Textile Laboratory took keen interest in providing several facilities.

With the continued and active co-operation being received from the Government and the heads of

institutions, it is hoped that the Mysore Abrasive industry is sure to set itself on very sound grounds during the ensuring year.

The abrasive production department of the Research Laboratory has now 70 individual workers on its rolls in various sections.

Nearly Rs.15,000 worth of abrasive products were so far manufactured and sold for various consumers.

Orders for execution to an extent of Rs.15,000 worth of abrasive products for Mysore Railways and Hindustan Aircraft are on hand for delivery of the goods before the end of August 1942.

A large amount of floor area has been harnessed for this development work and there is every possibility for harnessing more space whenever required.

Cutting and spraying machine have been added as additional equipment for production works.

The total number of crushers are being increased to eight to be able to produce the definite requirement in the production section of various grades of grains.

Sufficiently large quantity of wire mesh costing over thousand Rupees has been kept on stock to meet al emergencies.

Over eight thousand rupees worth of survey and field equipment has been added to commence prospecting

and development operation in field for corundum in the various districts of the State.

P. S. Narayana

P.S. Narayana.
Consulting Engineer & Geologist.

Bangalore,
Dated 27th July 1942.

With Compliments

To
The Secretary.
Board of Scientific & Industrial Research.
Govt. of Mysore.
Bangalore.

Handed to me
in person by
Mr Narayana.
29.7.42

I. R. B. 6]

SUBJECT Manufacture of Abrasives by Mr Narayana - P.S

Immediate

No.

To The Dy Sec

Date of issue ..

Signed by ..

Sir,

In inviting your Ref^e. to G.O N^o. D 1009-11 I^te S-S-42-2 dated 1st Aug '42, sanctioning your proposals for a working advance of Rs. 5000/- to Mr P. S. Narayana I am directed to ~~inform~~ State that Mr. Narayana has ~~separately~~ separately approached Govt Board for a loan of Rs 30,000/- ~~with a Annual interest~~ at 3½% interest, for

the purchase of raw materials ~~of~~ 3
& to further develop the
industry, ~~This Summary prepared~~ under consideration.
~~& this has to be placed~~
(Vide their Office letter No -) sending a copy
~~before the Board at the enquiry~~
of the appn to you, for your views on his request
~~meeting~~.

Pending decision on the
grant of a loan of Rs 30 000/— now
asked for by him, I am
directed to request you
to kindly arrange to
Purchase & Stock such
~~other raw materials~~
required by
~~M/s Siddhartha and Co~~
Mr. Narayanaiah for issue of loan
~~the materials stocked~~
~~issued~~ to him from time to time. The cost of
~~issued~~ the chemicals should be adjusted List of enclosure.
~~paid~~ of the advance of Rs 50000/- now made available.
The action taken may
kindly be reported

Yrs
Sd/- 11.8.
Asst

Copied by

Copy to the Dr for info

Examined by

WD 01343—GPB—750—4-1-11

I.P. 148/42-3

22nd September 1942.

Immediate.

The Director of Industries & Commerce
in Mysore, Bangalore.

Subject: Manufacture of abrasives by Mr.P.S.Narayana.

In inviting kind reference to G.O.No.D.1009-11/I&C.55-42-2 dated 1st August 1942, sanctioning your proposals for a working advance of Rs.5,000/- to Mr.P.S. Narayana, I am directed to state that Mr.Narayana has separately approached the Board for a loan of Rs.30,000/- at 3½ % interest, for the purchase of raw materials and to further develop the industry. This question is separately under consideration (vide this office letter No.I.P.149/42-3 dated 22nd September 1942 sending a copy of the application to you, for your views on his request).

Pending decision on the grant of a loan of Rs.30,000/- now asked for by him, I am directed to request you to kindly arrange to purchase and stock such chemicals as may be required by Mr.Narayana for issue to him from time to time. The cost of the chemicals should be adjusted out of the advance of Rs.5,000/- now made available.

The action taken may kindly be reported.

I have the honor to be,
Sir,
Your most obedient servant,

sd.T.Shamanna.

Secretary.

No. I.P.150.

Copy to I & C Branch.

For 22.9.42

22nd September 1942.

I.P.149/42-3

Encls: One.

The Director of Industries and Commerce
in Mysore, Bangalore.

Subject: Application of Mr.P.S.Narayana for the grant of a cash credit of Rs.30,000/-.

In forwarding herewith a copy of the application of Mr.P.S.Narayana for the grant of a loan of Rs.30,000/- on certain terms, I am directed to request you to be so good as to examine this application and furnish your opinion in the matter.

I have the honor to be,
Sir,
Your most obedient servant,

sd. T. Shamanna.

Secretary.

Copy to I & C Branch together with a copy of the application of Mr.Narayana for information and necessary further action.

For 22.9.42

Copy of letter No.D3.329/41-2 dated 25th Septr.1942 from the Director of Industries & Commerce in Mysore, Bangalore to the Secretary, Board of Industrial Planning and Coordination.

*****

Subject: Manufacture of Abrasives by Mr.P.S.Narayana.

With reference to your letter No.I.P.148/42-3 dated 22nd September 1942 on the above subject, I have the honor to state that the sum of Rs.5,000/- sanctioned to Mr.P.S. Narayana as working advance, was refunded in full by the gentleman and credited to the State Huzur Treasury on the 21st September 1942.

As regards the request of Mr.P.S. Narayana for a loan of Rs.30,000/- with interest, I write to state that proposals will be submitted for the orders of Government after the Director returns to Headquarters from Delhi.

"COPY"

No. IP 153

To

I & C Branch for necessary further action.

GOVERNMENT OF MYSORE

Tele gram / phone

OFFICE OF

the Director of Industries and Commerce in Mysore, Bangalore.

SECRETARY, BOARD OF INDUSTRIAL PLANNING & COORDINATION
SEP 28 1942
No 139

No. D3-329/41-42
Encls.

Date 25th September 1942.

To

The Secretary,
Board of Industrial Planning & Co-ordination,
General and Revenue Secretariat,
Bangalore.

Sir,

Manufacture of Abrasives by Mr. P.S. Narayana.

With reference to your letter No.I.P.148/42-43 dated 22nd September 1942 on the above subject, I have the honour to state that the sum of Rs.5,000/- sanctioned to Mr. P. S. Narayana as working advance, was refunded in full by the gentleman and credited to the State Huzur Treasury on the 21st September 1942.

As regards the request of Mr. P.S. Narayana for a loan of Rs.30,000/- with interest, I write to state that proposals will be submitted for the orders of Government after the Director returns to Headquarters from Delhi.

I have the honour to be,
Sir,
Your most obedient servant,

L. Thimmiah
DIRECTOR.
i.e.
Asst

26 Sep

CRN/-

I.P. 214

October 2

The Director of Industries and Commerce in Mysore,
Bangalore.

Manufacture of Abrasives.

15th Septr.1942

The Director of Industries & Commerce reported the work work done by Mr.P.S. Narayana.
The Chairman observed that the request of Mr.Narayana for a cash credit loan of Rs.30,000/- to develop the industry might be dealt with separately in the Secretariat.

No.I.P.215

Copy to I & C branch for
necessary further action.

sd. T. Shamanna,

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

Read:- Government Order No.D.1009-11/ I & C 55-42-2 dated 1st August 1942 sanctioning the grant of a working advance of Rs.5,000/- free of interest and repayable in a year to Mr. P.S. Narayana to further develop the Abrosive industry undertaken by him, the amount being met from the Industrial Development Fund.

2. Correspondence ending with letter No.D.S-329/41-42 dated 10th December 1942 from the Director of Industries and Commerce in Mysore stating that the above advance of Rs.5,000/- was fully repaid by Mr. P.S. Narayana on the 17th September 1942 and recommending in the circumstances explained therein sanction to the grant of the further advance of Rs.15,000/- (Rupees fifteen thousand) only, applied for by Mr. P.S. Narayana for the manufacture of abrasive paper, on the conditions noted hereunder which are agreed to by Mr. P.S. Narayana:-

(i) to pay interest at 4% per annum

(ii) to pledge as security for the advance the equipment of his laboratory valued approximately at Rs.20,000/-;

(iii) to purchase out of the advance amount of Rs.15,000/- and to pledge, in addition, the equipment bought and erected by him at a cost of Rs.2,500/- advanced to him as per Government Orders No. D.2908-11/ I & C 230-40-8 dated 23rd December 1940 and D.~~4940-42~~/ I &C 230-40 -16dated ~~1st April~~ 1941; 3468-69/ and 24th January

(iv) to pay back the whole amount of Rs.15,000/- so advanced in a year in monthly instalments of Rs.1,250 (one thousand two hundred and fifty) each; the advance being made from the Industrial Development Fund.

Order No. ⊗ 4169-70 / Dec 55-42-5

Dated, Bangalore the 23rd December 1942.

The proposals of the Director of Industries and Commerce are sanctioned, the amount being advanced from the Industrial Development Fund.

for Secretary to Government
Development Department.

To The Director of Industries and Commerce in Mysore.
" Comptroller to Government
" Secretary, Board of Industrial Planning and Co-ordi